GHTS
NOWLEDGE
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ALL [illegible]

BEING

A COLLECTION OF TREATISES,

IN VARIOUS DEPARTMENTS OF KNOWLEDGE.

BY SEVERAL AUTHORS

> "How many readers are there who would not be glad of attaining to knowledge the shortest way, seeing the orb thereof is swollen to such a magnitude, and life but such a span to grasp it? How many who have not some curiosity to know the foundations of those tenets upon which they so securely trust their understanding? or where the footsteps of those opinions and precedents may be found which have given direction to so many modern performances? In a word, if he be ignorant who would not wish to enlarge his knowledge? If he be knowing who would not willingly refresh his memory?"—OLDYS

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1854

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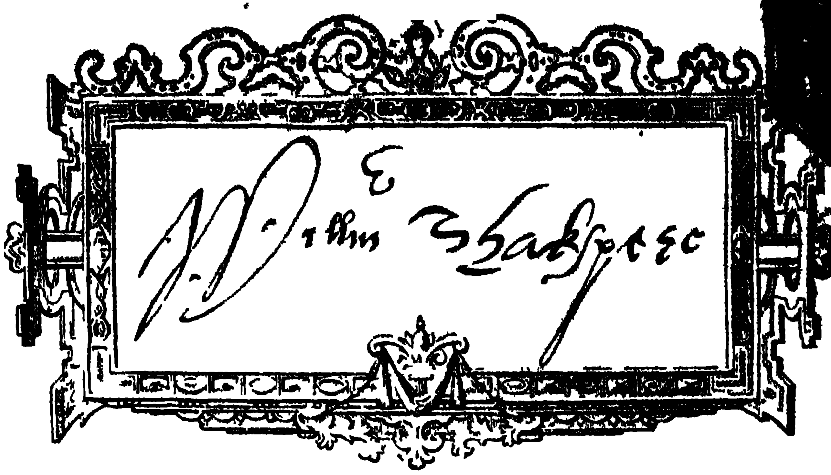
SH[illegible]ERE AND HIS WRITINGS

BY CHARLES KNIGHT.



It was in 1802, when our country was threatened with invasion, and the arms of France seemed almost resistless, that a great living poet, Wordsworth, wrote these lines:—

> In our halls is hung
> Armoury of the invincible knights of old:
> We must be free or die, who speak the tongue
> That Shakspere* spake.

And this was no idle boast. The connexion between England's freedom and the name of England's greatest writer was not an imaginary one. The "armoury" that was hung in "our halls" was not the breastplate and the helmet that our fathers wore at Agincourt. The "armoury" to which the poet alludes was the inheritance of thoughts and feelings which we had derived from the great minds who had gone before us. From *him* whose name "is the greatest in our literature—it is the greatest in all literature,"†—we have received such a stock of household thoughts, gradually but surely entering into the national soul during successive generations, that we "who speak the tongue" which he spake "must be free, or die." Nor was it that we were to find in the mass of writings which Shakspere has bequeathed to us any specific exhortations to freedom, any rapturous declamations on our national greatness, any incense to that pride which all nations feel, and would be unworthy of the name of nation if they did not feel. There is much in Shakspere to excite, incidentally, a just patriotism; but there is very little of what may be called patriotic poetry. There is, however, something better. Freedom, in the highest sense of the word, is the result of a nation's intelligence,—not the intelligence which consists in mere skill in the imitative arts, in accurate knowledge of the abstract sciences, in the applications of mechanical and chemical discovery, but which is created out of the habit of looking at the entire physical and moral world with more especial reference to man's ultimate capabilities and destinies than to the mere sensual utilities of the things around us. It is the great and enduring effect of a high literature such as England possesses, and of which Shakspere is the unquestioned head, to keep alive this nobler intelligence, to diffuse it through every corner of the land, to make its light penetrate into the humblest cottage, to mould even the lisping accents of the child to the utterance of its words. A literature such as this follows in the wake of the higher spiritual instruction,—an auxiliary to what we may more emphatically call *Wisdom*. To estimate the influence of such a writer as Shakspere upon the Intelligence of England would be a vain attempt, because the most powerful effects of that influence are indirect. It is sufficient to say, there has lived amongst us a man who possessed a power, surpassing that of all other men, of delineating almost every possible combination of human character. He has not represented mere abstract qualities, such as a good man and a bad man, a mild and passionate, a humble and a proud; but he has painted men as they are, with mixed qualities and mixed motives,—the result of temperament and education; and so painting them he has not only succeeded in kindling and cherishing within us the highest admiration and love of what is noble, and generous, and just, and true, but in making us kind and tolerant towards the errors of our fellow-creatures, compassionate even for their vices. But the same man has never broken down the distinction, as other writers have done, between what is worthy to be loved and imitated, and what to be pitied and shunned. We have no moral monsters in Shakspere, no generous housebreakers, no philanthropic murderers. We see men as they are; but we see them also with a clearness that it would be vain to expect from our own unassisted vision. The same great master of all the secrets of the human heart is also the expounder of the very highest and noblest philosophy. Books of no inconsiderable size have been made out of his mere moral axioms. To those who are familiar with Shakspere's writings there is scarcely a situation of human affairs which will not suggest a recollection of something that may be applied to it for instruction out of what

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* We have placed at the head of this paper the autograph of "William Shakspere," copied from his undoubted signature in the volume of Montaigne's Essays by John Florio, which was purchased for a large sum by the Trustees of the British Museum. This autograph has set at rest the long disputed question of the mode *in which the poet wrote his name*. Sir Frederic Madden has satisfactorily shown, in a letter published in the 'Archæologia,' vol. xxvii., that in the five other acknowledged genuine signatures in existence, namely, in the three attached to his will, and the two affixed to deeds connected with the mortgage and sale of a property in Blackfriars, "the poet always wrote his name SHAKSPERE, and consequently, that those who have inserted an *e* after the *k*, or an *a* in the second syllable, do not write the same (as far as we are able to judge) in the same manner as the poet himself uniformly would authorize us to do." In the Stratford Register, both at his baptism and burial, says Sir F. Madden, the name is spelt *Shakspere*. We may add that in the same registers, the entries of the baptism of his three children, and of the burial of his son (which entries were most probably made under his own inspection), are spelt *Shakspere*. The printers, however, during his life, and in the folio of 1623, spell his name Shakespeare. A furious controversy has been going on for two years upon this subject, which much resembles that of the *big-endians* and *little-endians* in 'Gulliver's Travels." We choose to belong to the party who spell the name as the poet *wrote* it; but we shall not quarrel with those who spell it as his contemporaries *printed* it.

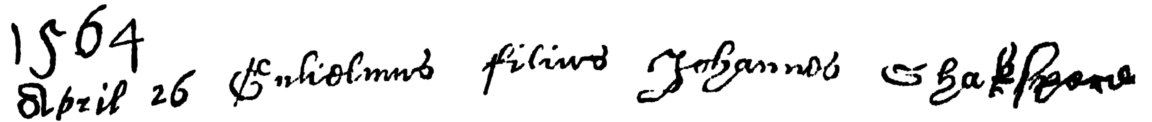
† Hallam.

[illegible] the minds even of the uneducated [illegible] they have become familiar [illegible]. If two men of average education converse together for half an hour on general subjects, there can be little doubt that, without [illegible], the ever genial wit of Shakspere will be [illegible], and his universal poetry elevation [illegible]. The mode in which the mind of Shakspere [illegible] other lands exhibits the stages in the [illegible]ty in our own land. He first became the property of the best and the most educated minds [illegible] his influence at first timidly and [illegible] result is invariable: the greatest in[illegible]ate before this master intellect. Under [illegible]cism, both in our own and in other countries, the merits of Shakspere as a whole have been misunderstood; and he has been held as a violator of certain conventional principles of art, upon which poetry was to be built as churches were built in the same age,—with nothing irregular, nothing projecting, a good solid cube, with one window exactly like another, and a doorway in the middle. The architects of our fine old Gothic cathedrals, and Shakspere, were equally held to be out of the pale of regular art. They were wild and irregular geniuses, more to be wondered at than imitated. But, with all this, there never was a period, however low its standard of taste, when many a votary did not feel a breathless awe as he entered such cathedrals as York and Lincoln, and had his devotion raised and refined by the matchless beauty and sublimity of the temple in which he prayed. And, in the same way, there never was a period since Shakspere's plays were first acted in a mean theatre, without scenery or decoration,—up to the present time when they are the common possession of Europe, and are known amongst millions of men who inhabit mighty continents and islands where the English tongue was almost or wholly unspoken when he lived,—there never was a period when the love and reverence which England now bears him were not most ardently cherished in the hearts of the best and the most influential of the people—those who thought for themselves. Even those who scoffed at his *art* never doubted his *power*. They would criticise him,—they would attempt to mend him,—but he was always "the incomparable." They held, too, that he was unlearned; but they also held that he knew everything without learning. Nature did for him, they said, what study did for other men. Thus they endeavoured to raise him in the mass, and degrade him in the detail; and by dint of their absurd general admiration, and their equally absurd depreciation of minute parts of his writings, they laboured to propagate an opinion which would have been fatal to one less really great,—that he was a person, not exactly inspired, but producing higher efforts of imagination, and displaying the most varied and accurate knowledge, without the education and the labour by which very inferior productions of literature were ordinarily produced. These were the critics of our own country, from the days of the Restoration almost up to the end of the reign of George III. But, in the mean while, after the hateful taste was put down that we imported from France with all the vices of the court of Charles II., Shakspere again became the unquestionably best property of the English stage. There never was a period in which he was not diligently *read*. Four folio editions of his works were printed in 62 years—1623 to 1685, a time most unfavourable to literature. It is in this way—by the multitude of *readers*—that Shakspere has become *universal*. If books were now to perish, if "letters should not be known," the influence of Shakspere would not be eradicated from amongst those who speak his tongue; the moral and intellectual influence would remain after the works which had produced it had perished. But they would not perish wholly: some fragments of the knowledge of which he is full,—some consecutive words of the exquisite diction in which he abounds,—some dim abbreviation of the wonderful characters with which he has peopled the earth,—[illegible] in remote places as the fancies of most [illegible]

One of the editors of Shakspere,—and he that possessed the greatest shrewdness, mixed with the most unreasonable portion of prejudice and unfairness,—Steevens—says, "All that is known with any degree of certainty concerning Shakspere is—that he was born at Stratford-upon-Avon—married and had children there—went to London, where he commenced actor, and wrote poems and plays—returned to Stratford, made his will, died, and was buried." This is not true. The life of the most distinguished modern statesman, whose course may be traced by document upon document, might be despatched in a similar antithetical summary. This is not "*all* that is known with any degree of certainty." There is, indeed, a lamentable deficiency in the materials for Shakspere's life, such as perhaps exists in no similar instance of a man so eminent amongst his contemporaries. Mr. Hallam has justly observed, "All that insatiable curiosity and unwearied diligence have detected about Shakspere serves rather to disappoint and perplex us than to furnish the slightest illustration of his character. It is not the register of his baptism, or the draft of his will, or the orthography of his name, that we seek. No letter of his writing, no record of his conversation, no character of him drawn with any fulness by a contemporary, can be produced." And yet the register of their births, of their marriages, of the children born to them, of their deaths, and to which in many cases we may add the record of their wills, are the *only* traces which are left, after the lapse of two centuries and a half, of the greater number of those who have dwelt upon the same earth and in the same country with ourselves. But if there were a proportionate motive in the character of any man to connect such meagre records with the time and circumstances in which he lived, it would not be an unworthy task to attempt to shadow out his life by the help of these imperfect traces of his career. Such is the task which antiquaries are constantly proposing to themselves with regard to men in whom the world takes very little interest. There is, perhaps, no man whose life would not be interesting could we know, and know truly, all the circumstances of it. If we have to follow the course of a very distinguished man, the interest of the subject may compensate for the paucity of the facts. If we have nothing but registers, and title-deeds, and pedigrees, and wills, we must be content with these "spoils of time," in the absence of matters which bring us nearer to the individual. We have, however, as we have said, to group these records, amidst the mass of circumstances of which they form so small a part. A writer of the present day, who has given an impulse to our abstract thinking, which like all other such impulses may eventually be traced onward to practical results—Mr. Carlyle—in a review of a popular edition of a biographical work, says, "Along with that tombstone information, perhaps even without much of it, we could have liked to gain some answer, in one way or other, to this wide question: What and how was *English Life* in ———'s time? wherein has ours grown to differ therefrom? In other words: What things have we to forget, what to fancy and remember, before we, from such distance, can put ourselves in ———'s *place*; and so, in the full sense of the term, *understand* him, his sayings and his doings?" If we fill up the blank with the name of Shakspere, we have a very clear exposition of the spirit in which it appears to us that the Life of Shakspere ought to be written. We have the "tombstone information."

[illegible] of Shakspere has [illegible] in connexion with his writings. [illegible] there may be [illegible] dates of particular works, there is, upon the whole, sufficient evidence to enable us to class these works in cycles. We may trace the poet onward with tolerable certainty through the different epochs of his genius—its morning softness, its noontide fervour, its afternoon splendour, its evening serenity. What we want still is to know something of the private history of this wonderful writer—to have "the power of identifying the young man who came up from Stratford, was afterwards an indifferent player in a London theatre, and retired to his native place in middle life, with the author of 'Macbeth' and 'Lear.'"* Something, however, may be done, towards making this desired identity not only clear but natural. As far as Shakspere can be traced in connexion with his writings we are not quite sure that we have more to expect,—we have perhaps little more to desire. He belonged to a profession which has always been destined to have the applause of a portion of the world counterbalanced by the censure of another portion. He was a large proprietor, and without doubt the literary director, of a theatre to which other poets contributed their productions in common with himself. He was not only a great innovator, but a most successful one; and after he had destroyed the rude art of his early contemporaries, he had to oppose his principles to what was considered the more learned art of his later rivals. We should not desire to have the secret passages of such a professional life revealed to us. We fear that, however marvellous might appear the power through which the poet had carried his genius loftily and purely amidst all the littlenesses by which he must have been surrounded, there would have been something in the exhibition that for the moment would have given us pain. Shakspere, in 1602, bought a considerable quantity of land in the neighbourhood of Stratford, and we have no doubt that he himself farmed it. It was the custom for gentlemen to attend to all the details of the productive and commercial part of farming in Shakspere's day. It is nothing derogatory in the eye of philosophy that the author of 'Lear,' perhaps in the very intervals of its composition, should be bargaining for a load of wheat or a score of wethers. It was just that having sold his wheat he should be paid for it. But we confess to the weakness of being startled when an original document was [illegible] clearly showing how Shakspere in wor[illegible] was like other men. It was a precept, attached [illegible] declaration of William Shakspere against Philip Rogers, in an action of debt, for the sum of thirty-five shillings and ten pence, for corn delivered in 1603 and 1604; and the usual remedies were sought in the Court of Record at Stratford. The boy William Henry Ireland, who forged the Shakspere manuscripts in 1796, began with "a lease," to which he affixed a pretended autograph of Shakspere. Success made him bold, and he proceeded to "a profession of faith." He was next tempted into the manufacture of love-letters, and letters of friendship, full of fine thoughts and superlative protestations. All this exhibited very considerable inexperience and want of knowledge in the unfortunate boy who attempted these delusions. If any letters of Shakspere were hereafter to be discovered, we have no doubt that they would be business-like letters, as brief as possible,—neither letters of display, nor letters speaking out of the abundance of the heart: these are inventions of modern times. In the absence of newspapers, men and women wrote gossiping letters to each other about public events and private scandal. We doubt if Shakspere had time for writing such letters. But whether it be desirable or not to have the hidden places of Shakspere's private history laid open to us, it is not very likely, we think, that they ever will be so displayed. Some additions to our scanty knowledge will no doubt be derived from the same species of diligence as that which has been so worthily employed within the last ten years, by Mr. Collier particularly. But for the most part, we must, we apprehend, be content with "tombstone information," counting ourselves happy to live in a land of which the civilization has been sufficiently advanced, during more than three centuries, to make it a part of the public policy to record the marked events in the progress from the cradle to the grave of the humblest of our country's children, and which records are the most efficient guides in tracing the course of the greatest who has been born and died amongst us—William Shakspere.

In the register of baptisms of the parish church of Stratford-upon-Avon we find, under the date of April 26, 1564, the entry of the baptism of William, the son of John Shakspere. The entry is in Latin. The date of the year, and the word April, occur three lines above the entry—the birth being the fourth registered in that month.



1564
April 26 Gulielmus filius Johannes Shakspere

The date of William Shakspere's birth has always been taken as three days before his baptism; but there is certainly no evidence of this fact. Who was John Shakspere, the father of William? The same register of baptisms shows, it is reasonably conjectured, that *he* had two daughters baptised in previous years,—Jone, September 15th, 1558; Margaret, December 2nd, 1562. Another brief entry in another book closes the record of Margaret Shakspere; she was buried on the 30th of April, 1563. There is very little doubt that the elder daughter, Jone, died also in infancy; for another daughter of John Shakspere, also called Jone, was baptised in 1569. William was in all probability the first of the family who lived beyond the period of childhood. From these records, then, we collect, that John Shakspere was married and living in the parish of Stratford in 1558. He was no doubt settled there earlier; for in the archives of the town, by which his course may be traced for some years, we find that he was, in 1556, one of the jury of the court-leet; in 1557, one of the ale-tasters; at Michaelmas of that year, or very soon afterwards, he was elected a burgess or junior member of the corporation; in 1558 and 1559 he served the office of constable, which duty appears then to have been imposed upon the younger members of the corporate body; lastly, in 1561, he was elected one of the chamberlains. Here, then, previous to the birth of William Shakspere, we find his father passing through the regular gradations of those municipal offices which were filled by the most respectable inhabitants of a country town—those who, following trades or professions, or possessed of a small independence, were useful in their several degrees, and received due honour and reverence from their neighbours. What the occupation of John Shakspere was cannot be very readily determined. Aubrey, the antiquary, who lived till nearly the end of the seventeenth century, and whose manuscripts, preserved in the Bodleian Library at Oxford, contain some very quaint and amusing notices of eminent persons who flourished just before and in his day, says, "Mr. William Shakspear was born at Stratford-upon-Avon, in the county of Warwick; *his father was a butcher*, and I have been told heretofore, by some of the neighbours, that when he was a boy he exercised his father's trade, but when he killed a calf he would do it in a high style, and make a speech." There has been recently published a letter, which was formerly in the possession of the family of Lord de Clifford, written by a member of one of the inns of court, and giving an account of the writer's visit to Warwickshire in 1693.* After copying the inscription on the poet's monument, he says, "The clerk that showed me this church was above eighty years old. He says that this Shakespeare was formerly in this town *bound apprentice to a butcher*, but that he ran from his master to London, and there was received into the playhouse as a servitour, and by this means had an opportunity to be what he afterwards proved. He was the best of his family; but the male line is extinguished." Aubrey's anecdotes of Shakspere are supposed to have been collected about 1680. The letter-writer from Warwickshire was gratifying his honourable curiosity about him whom he styles "our English tragedian" in 1693. The parish clerk "above eighty years old" was probably the informant of both parties. He would have been about three years old when Shakspere died; and the period of Shakspere's apprenticeship which he records would have been some forty years earlier. Absolute correctness, therefore, was not likely to have been attained by this honest chronicler. The accounts, it will be seen, materially differ. Aubrey says, "His father was a butcher;" the parish clerk, "He was bound apprentice to a butcher." To the edition of Shakspere's works published by Rowe in 1709, was prefixed a 'Life.' Rowe acknowledges "a particular obligation" to Betterton, the celebrated actor, "for the most considerable part of the passages relating to this life, which I have here transmitted to the public; his veneration for the memory of Shakspeare having engaged him to make a journey into Warwickshire on purpose to gather up what remains he could of a name for which he had so great a veneration." Betterton, then, thus speaking through Rowe, says, "He was the son of Mr. John Shakspeare, and was born at Stratford-upon-Avon, in Warwickshire, in April, 1564. His family, as appears by the register and public writings relating to that town, were of good figure and fashion there, and are mentioned as gentlemen. His father, who was a *considerable dealer in wool*," &c. But Malone, in his posthumous 'Life' of the poet, has published a document which is held to be decisive as to this question. It is a record of proceedings in the Bailiff's Court in 1555, in which some process is shown to have been taken against John Shakyspere, of Stratford, *glover*. Malone has argued that this was a considerable branch of trade, and no doubt it was. But we are by no means certain that John Shakyspere the glover was the same person as the poet's father. There was another John Shakspere living in Stratford, who has been repeatedly mistaken for the more interesting butcher, woolman, or glover; and the mistake, we believe, has gone somewhat further than has been acknowledged. He was a younger man than the father of our poet, for he married in 1584. He was a shoemaker, as is proved by repeated entries in the books of the corporation. Might not his father have been the glover in 1555? Shakspere appears to have been one of the most common names in the town of Stratford; and we have also, as well as John, the shoemaker, Thomas, a butcher. About the same period William Shakspere's father is called *a yeoman* in one of the deeds relating to his property. We believe, as we shall presently show, that he was originally of the rank which is denominated gentleman at the present day; he was subsequently *legally* recognised as a gentleman, in the sense in which the word was used in former days. It was not incompatible with this opinion that he should be either a butcher or a dealer in wool. Whether he possessed any patrimonial property or not, he undoubtedly, by marriage, became the proprietor of an estate. He married, as we shall see, an heiress—a lady of ancient family. It was after this marriage that he was designated by some a butcher, by others a dealer in wool. There is a mode of reconciling these contradictory statements which has been overlooked by those who have been anxious to prove that Shakspere was not the son of a butcher. In Harrison's 'Description of England' we have an exact notice of the state of society at the precise time when John Shakspere, the possessor of landed property, was either a butcher or a woolman, or both. We have here a complaint of the exactions of landlords towards their tenants, particularly in the matter of demanding a premium on leases; and it thus proceeds:—"But most sorrowful of all to understand that men of great

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* Hallam's 'Literature of Europe.'

* Published by Mr. Rodd, under the title of 'Traditionary Anecdotes of Shakspere.'

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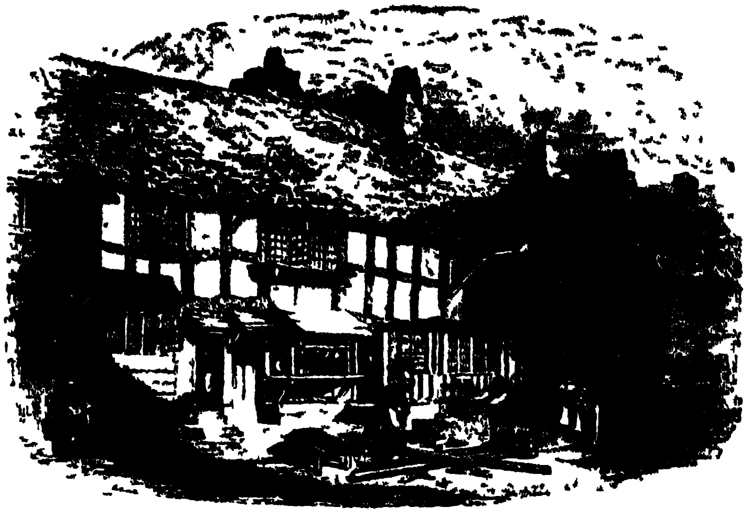
weak, or as an idol with broken or feeble arms, which may in a time of peace have a plausible show, but, when necessity shall enforce, have an heavy and bitter sequel." The term "gentleman-farmer" was not invented in Harrison's time, or we should, we believe, have had a pretty correct description of the occupation of John Shakspere.

But we have now to inquire who was the mother of William Shakspere? His father died in 1601. On the 9th of September, 1608, we have an entry in the Stratford register of burial, "Mary Shakspere, widow." We learn from an unquestionable document, a bill in chancery—of the date of November 24th, 1597,—that John Shakspere and Mary his wife were "lawfully seized in their demesne as of fee as in the right of the said Mary of and in one messuage and one yard land, with the appurtenances, lying and being in Wylnecote." In the will of Robert Arden, dated November 24th, 1556, we find,—"I give and bequeath to my youngest daughter Mary all my land in Willmecote, called Asbyes, and the crop upon the ground," &c. She was further left the sum of six pounds thirteen shillings and fourpence. The grandfather of Mary Arden was groom of the chamber to Henry VII., and he was the nephew of Sir John Arden, squire of the body to the same king. Sir John Arden was a son of Walter Arden and of Eleanor, the daughter of John Hampden of Buckinghamshire. There were thus the ties of a common blood between William Shakspere and one of the most distinguished men of the next generation—John Hampden, who was a student in the Inner Temple when the poet died. Mary Arden's property has been computed to be worth some hundred and ten pounds of the money of *her* time. Let not the luxurious habits of the present age lead us to smile at such a fortune. All the worldly goods (except his lands) belonging to her father were in the inventory attached to his will valued at seventy-seven pounds eleven shillings and tenpence; and these goods included numerous oxen, bullocks, kine, horses, sheep, besides wheat in the field and in the barn. It is probable that Mary Arden became the wife of John Shakspere soon after her father's death, which was in 1556. She was the youngest daughter; and she no doubt married young, for under any circumstances she must have been an aged woman when she died in 1608.

Of these parents, then, was William Shakspere born, in 1564, in the town of Stratford. In that town there is a street retaining its ancient name, Henley-street, being the road to Henley-in-Arden, where, in 1574, stood two houses with a garden and orchard annexed to each; and these houses were then purchased by John Shakspere. It is said that William Shakspere was born in one of these houses. His father may have inhabited the house before the purchase; and it is more than probable that he did, for at a court-leet in 1556 there is an entry of an assignment to him of the lease of a house in Henley-street, and of another in Greenhill-street. There is nothing to prove that the poet was *not* born in the house in Henley-street: and there that house still stands, altered according to modern fashion, its gable roofs destroyed,—divided and subdivided into smaller tenements,—part converted into a little inn, part the residence of a female who shows the room where it is alleged that Shakspere first saw the light, and the low-roofed kitchen where his mother taught him to read. We believe it all. The walls of that venerated bedroom are covered literally with thousands of names, inscribed in homage by pilgrims from every region where the glory of Shakspere is known. And there some of the greatest of those who have trodden, at whatever distance from him, the same path,—the Scotts, and Byrons, and Washington Irvings of our own day,—have recorded their visits, amongst the multitude who have not lived in vain for themselves or others if they have drawn instruction and delight from him to whose memory they have offered their tribute, and have continued to add to the stock of knowledge thus derived. That house belongs to no public body; there are no descendants of the poet to uphold it; it will be some day swept away to make room for a tenement with higher ceilings, and larger windows, and walls that show no ribs of oak;—and yet we call ourselves a nation proud of our antiquities!

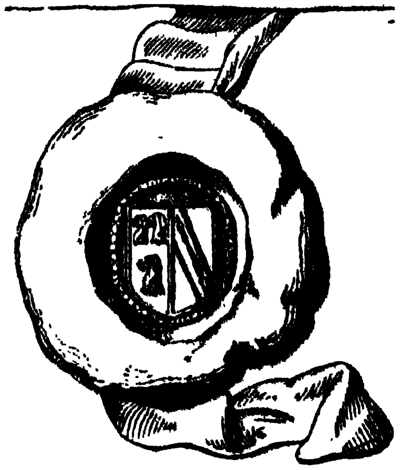


The above is a representation of the house in which Shakspere is said to have been born, as it was some twenty five years ago. The centre, which is here represented as a butcher's shop, is not so used at the present time. We give an engraving at p. 16, from a drawing made about 1770, which exhibits a much more uniform appearance, showing that a very respectable family might not disdain to inhabit such a tenement even in our own day. At the time when Shakspere's father bought this house, it was no doubt a mansion as compared with the majority of houses in Stratford. There is an order from the Privy Council to the bailiff of Stratford after a great fire which happened there in 1614, pointing out that fires had been very frequently occasioned there by means of thatched cottages, stacks of straw, furzes, and such like combustible stuff, which are suffered to be erected and made confusedly in most of the principal parts of the town without restraint. Stratford, like nearly every other town of England in that day, closely built, imperfectly drained, was subject to periodical visitations of the plague. From the average annual number of births and burials we may infer that the usual number of the inhabitants was about 1200. When William Shakspere was about two months old the plague broke out in this town, and, in the short space of six months, 238 persons, a fifth of the population, fell victims. The average annual mortality was about forty. No one of the family of Shakspere appears to have died during this visitation. One of the biographers of "the Bard of Avon," as he is pulingly called, says, "A poetical enthusiast will find no difficulty in believing that, like Horace, he reposed secure and fearless in the midst of contagion and death, protected by the Muses, to whom his future life was to be devoted." We desire to be poetical enthusiasts in matters which belong to poetry, but in this case we must be content to believe that the house in which the infant Shakspere was cradled was, compared with other houses, well ventilated and clean,—that his family possessed sufficient of the necessaries and comforts of life,—and that every proper precaution was taken to ward off the danger. In 1566 another son, Gilbert, was born. The head of this growing family was actively engaged, no doubt, in private and public duties. In 1568 John Shakspere became the bailiff, or chief magistrate, of Stratford. This office, during the period in which he held it, would confer rank upon him, in an age when the titles and degrees of men were attended to with great exactness. Malone says that, from the year 1569, the entries, either in the corporation-books or the parochial registers, referring to the father of the poet, bear the addition of *master*, and that this honourable distinction was in consequence of his having served the office of bailiff. We doubt this inference exceedingly. John Shakspere would not have acquired a permanent rank by having filled an annual office. But he *did* acquire that permanent rank in the year 1569, in the only way in which it could be legally acquired. A *grant of arms* was then made to him by Robert Cooke, Clarencieux. The grant itself is lost, but it was confirmed by Dethick, Garter King at Arms, and Camden, in 1599. That confirmation contains the following preamble: "Being solicited, and by credible report informed, that John Shakspere, now of Stratford-upon-Avon, in the county of Warwick, gent., whose parent and great-grandfather, late antecessor, for his faithful and approved service to the late most prudent prince, King Henry VII., of famous memory, was advanced and rewarded with lands and tenements given to him in those parts of Warwickshire, where they have continued by some descents in good reputation and credit; and for that the said John Shakspere having married the daughter and one of the heirs of Robert Arden of Wellingcote, in the said county, and also produced this his ancient coat of arms, heretofore assigned to him whilst he was her majesty's officer and bailiff of that town; in consideration of the premises," &c. Nothing, we should imagine, could be clearer than this. John Shakspere produces his ancient coat-of-arms, assigned to him whilst he was bailiff of Stratford, and he recites also that he married one of the heirs of Arden of Wellingcote. Garter and Clarencieux, in consequence, allow him to impale the arms of Shakspere with the ancient arms of Arden of Wellingcote. The Shakspere arms were actually derived from the family name, and we give a representation of the united arms as they were used in the seal of William Shakspere's daughter,—most probably it was his own seal; and yet Malone has a most elaborate argument to prove that the grant of arms was made entirely with reference to the circumstance that John Shakspere had married one of the daughters and heirs of Arden of Wellingcote. Such questions may appear frivolous and unworthy to be discussed in the notice of a man so elevated above the accidents of birth and station, and we may think of the words of another poet, one of Nature's own nobles,—

"A prince can mak a belted knight,
A marquis, duke, and a' that;
But an honest man's aboon his might,
Guid faith he mauna fa' that."

Yet the subject is important in connexion with the education of Shakspere. A great deal of what would appear little

Susanna hall



less than miraculous in his writings, especially with reference to the almost boundless amount of knowledge which they contain on every subject, will raise in us not a vulgar wonder but a rational admiration when we look at him as a well-nurtured child, brought up by parents living in comfort if not in affluence, and trained in those feelings of honour which were more especially held the possession of those of gentle blood. William, the son of *Master* John Shakspere, would, without any prejudice for mere rank, be a different person from the son of *Goodman* Shakspere, butcher. We can scarcely conceive him killing a calf "in a high style" without seeing him surrounded with the usual companions and associations of the slaughterhouse. His father and mother were, we have no doubt, educated persons; not indeed familiar with many books, but knowing some thoroughly; cherishing a kindly love of nature and of rural enjoyments amidst the beautiful English scenery by which they were surrounded; admirers and cultivators of music, as all persons above the lowest rank were in those days; frugal and orderly in all their household arrangements; of habitual benevolence and piety. We have a belief, which amounts to a conviction as strong as could be derived from any direct evidence, that the mind of William Shakspere was chiefly moulded by his mother. No writer that ever lived has in the slightest degree approached him in his delineations of the grace and purity of the female character; and we scarcely exaggerate in saying that a very great deal of the just appreciation of women in England has been produced through our national familiarity with the works of Shakspere. It was he who first embodied the notion—and he has repeated it in shapes as various as they are beautiful—of

"A perfect woman, nobly plann'd,
To warn, to comfort, and command;
And yet a spirit still, and bright
With something of an angel light."

Had his boyhood been surrounded with ignorance, or vulgarity, or selfishness, in female shapes, we doubt if our Desdemonas, and Violas, and Mirandas, would have been quite so perfect. But a father's influence could not have been wanting in his culture. If his father, and his father's companions, had been examples of coarseness, and sensuality, and indifference to high and ennobling pursuits, we doubt if his wondrous gallery of full-length portraits of thorough gentlemen of all ages and countries would have attained its present completeness. We are not sure that the poor mad Lear, in his paroxysms of anguish, would have said,

"Pray you, undo this button; thank you, sir;"

or that Polonius would have advised his son,

"To thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

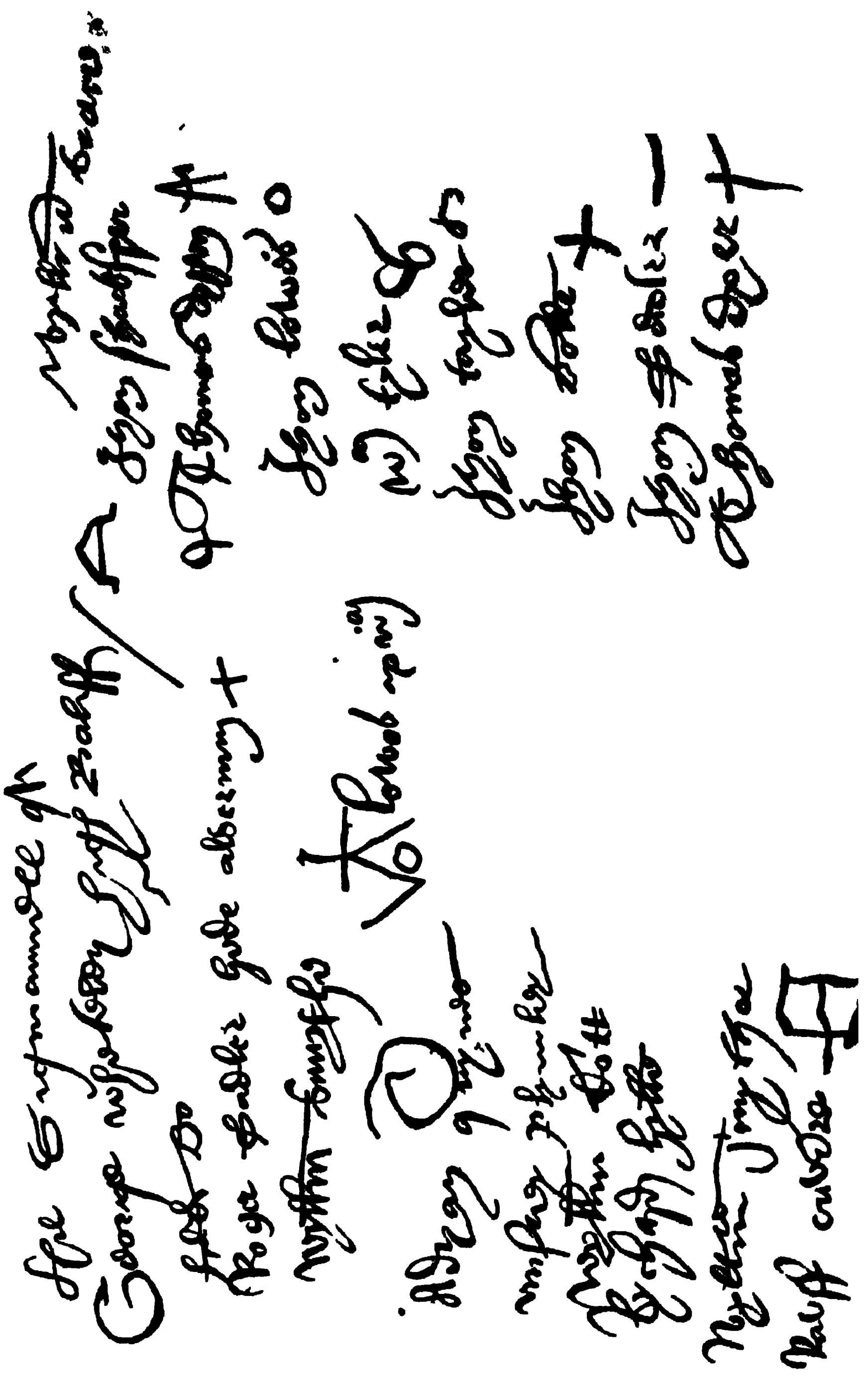
Malone assures us that Shakspere's father *could not write.* We were perfectly satisfied that the statement was untrue; and we have taken some pains, therefore, to examine the evidence which was produced for this assertion.* Putting the higher considerations of the poet's education out of the question, we thought it scarcely consistent with his habitual reverence for those things which we are called upon to honour, that he should make his own father the subject of his satire, and that during his father's lifetime, in the praise which Jack Cade bestows upon those who "do not use to write their names, but have a mark of their own, like honest plain-dealing men." Malone tells us that John Shakspere had a mark of his own, and it "nearly resembles a capital A, and was perhaps chosen in honour of the lady whom he had married." He farther says, "Out of nineteen persons who signed a paper relative to *one* of their body who had been elected bailiff, ten of whom were aldermen, and the rest burgesses, seven only could write their names; and among the twelve marksmen is found John Shakspere;" and that he derives his knowledge of the facts from an Order, dated September 27, 1564. The reader shall judge for himself of the truth of this assertion. *We give an exact fac-simile of the Order,* which a most careful artist was permitted to make for us from the old council-book of the corporation of Stratford. (No. 1.) There may be a doubt, the reader may think, whether the mark which "nearly resembles a capital A" belongs to "George Whateley, high bailiff," in the first column, or "Jhon Shacksper," in the second column. Malone, who asserts that it belongs to our poet's father, had the corporation-books in his possession for many years; but he omitted to find an entry of the 29th of January, 1589, when John Shakspere had ceased to be a member of the corporation. He did not then, of course, record his ignorance in the corporation-books; but George Whateley still uses the same big A. In a quarter of a century he had not learned to write. We give a fac-simile of this entry, which we trust is decisive. (No. 2.)

Malone talks as if John Shakspere's use of a mark was a common thing. *There is not another example* in the corporation-books in which the name of John Shakspere is attached to any order of a common hall. Mr. Wheler, of Stratford, who is honourably distinguished for his attention to matters connected with Shakspere, informs us that such orders were very rarely signed by members of the corporation who were present, but that the entry to which the name of John Shakspere is affixed was a very special one.

William Shakspere, then, we think had a mother who could read, and a father who could write. They probably could do something more in the way of advancing the intelligence of their son. But, at any rate, when he became old enough, they would send their boy to the endowed grammar-school of the town in which they lived. He probably went there about 1571, when his father had become chief alderman of the town.

The free-school of Stratford was founded in the reign of Henry VI., and received a charter from Edward VI. It was open to all boys, natives of the borough; and, like all the grammar-schools of that age, was under the direction of men who, as clergymen and graduates of the universities, were qualified to diffuse that sound scholarship which was once the boast of England. We have no *record* of Shakspere having been at this school; but there can be no rational doubt that he was educated there. His father could not have procured for him a better education anywhere. It is perfectly clear to those who have studied his works (without being influenced by prejudices, which have been most carefully cherished, implying that he had received a very narrow education) that they abound with evidences that he must have been solidly grounded in the learning, properly so called, which was taught in grammar-schools. As he did not adopt any one of the learned pro-

[No. 1.]



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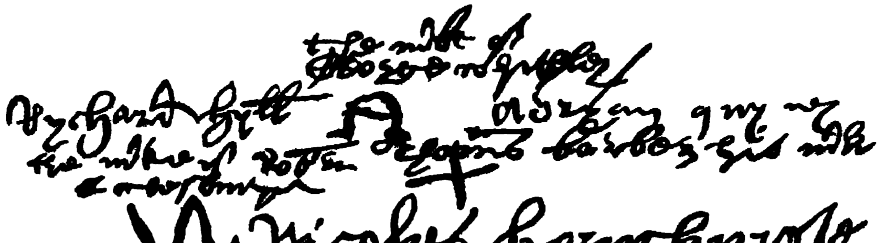

fessions, he probably, like many others who have been forced into busy life, cultivated his early scholarship only so far as he found it practically useful, and had little leisure for unnecessary display. His mind was too large to make a display of anything. But what professed scholar has ever engrafted Latin words upon our vernacular English with more facility and correctness? Who amongst the greatest of scholars has ever shown a more profound acquaintance with the spirit of ancient customs, and manners, and modes of thought? Malone has found a Latin letter written to his father by Richard Quiney, when a boy and some ten years Shakspere's junior; and he very properly assumes that Shakspere himself could have written such a letter. The father of this boy was an alderman of Stratford; he himself, the Latin letter-writer, was afterwards a grocer; and there was another alderman, his contemporary, and the contemporary of Shakspere's father, who used also to write long Latin letters to Alderman Quiney upon matters of business. What does this prove? That amongst those who were educated at all there was a higher standard existing than the mere ability to read and write. The men who wrote and received these Latin letters were tradesmen at Stratford, and had probably been educated at its free-school. The masters of that school, from 1572 to 1587, were Thomas Hunt and Thomas Jenkins. They are unknown to fame. They were, no doubt, humble and pious men, satisfied with the duties of life that were assigned to them. Hunt was the curate of a neighbouring village, Luddington. It is most probable that they did their duty to Shakspere. At any rate they did not spoil his marvellous intellect.

There are local associations connected with Stratford which could not be without their influence in the formation of Shakspere's mind. Within the range of such a boy's curiosity were the fine old historic towns of Warwick and Coventry, the sumptuous palace of Kenilworth, the grand monastic remains of Evesham. His own Avon abounded with spots of singular beauty, quiet hamlets, solitary woods. Nor was Stratford shut out from the general world, as many country towns are. It was a great highway; and dealers with every variety of merchandize resorted to its fairs. The eyes of Shakspere must always have been open for observation. When he was eleven years old Elizabeth made her celebrated progress to Lord Leicester's castle of Kenilworth; and there he might even have been a witness to some of the "princely pleasures" of masques and mummeries which were the imperfect utterance of the early drama. At Coventry, too, the ancient mysteries and pageants were still exhibited in the streets, the last sounds of those popular exhibitions which, dramatic in their form, were amongst the most tasteless and revolting appeals to the senses. More than all, the players sometimes even came to Stratford. What they played, and with what degree of excellence, we shall presently have occasion to mention. The ambition of the boy Shakspere would not have been very extravagant if he had fancied that he could make a better play than any that the players could have shown him.

A belief has obtained, and it has been taken up by men of higher mark than the original promulgators, that William Shakspere's family, about his fourteenth year, became embarrassed in their circumstances, and subsequently fell into great poverty. The question is not uninteresting, looking at the probable influence of such a state of his father's circumstances upon the future destiny of the great poet. It is of little consequence to the present age to know whether an alderman of Stratford, nearly three hundred years past, became unable to maintain his social position; but it is of consequence to know whether the greatest amongst the minds of England had passed through early sorrow and suffering—had encountered the degradations of positive want—had fled his country for deer-stealing—had left his family, to hold horses at the door of a London theatre. We do not believe that any such consequences of the alleged poverty of his family ever took place. There is the best evidence for not believing so. Neither do we believe that Shakspere's father was reduced at all in his circumstances,—certainly not that he lost his social position. A passage in the poet's 'Life' by Rowe has led to the pains-takings by which this theory has been sought to be established:—"His father, who was a considerable dealer in wool, had so large a family, ten children in all, that, though he was his eldest son, he could give him no better education than his own employment. He had bred him, it is true, for some time at a free-school, where, it is probable, he acquired what Latin he was master of; but the narrowness of his circumstances, and the want of his assistance at home, forced his father to withdraw him from thence, and unhappily prevented his farther proficiency in that language. It is without controversy that in his works we scarce find any traces of anything that looks like an imitation of the ancients." Rowe then goes on to assume that because he did not copy from the ancients he had never read them. This only shows the imperfect knowledge and false reasoning of Rowe as regarded Shakspere's education; he has given us no facts to prove the narrowness of his father's circumstances. Malone, however, says, there is "abundant proof" that when our author was about fourteen years old his father was "by no means in affluent or even easy circumstances." This may be. The purchase of his houses in Henley-street, Stratford, was made in 1574. His son William inherited that estate. In 1578 John Shakspere mortgaged his wife's estate for a sum much under its value; and the bill in Chancery, twenty years after, to which we have alluded, was filed against the mortgagee, who appears to have used unfair means to have retained possession of it. This purchase of one property, and the mortgage within four years of another property, indicates certainly some change either of circumstances or of occupation; but it does not indicate what Malone broadly affirms to have been the case, that John Shakspere was in "a distressed situation" at this period. Malone contends that the records of the borough of Stratford afford "decisive proof" of the fact. At a common hall of the borough held in January, 1578, it is agreed "that every alderman except such underwritten should pay towards the furniture of three pikemen, two billmen, and one archer, 6s. 8d." Mr. Plymley, an alderman, was to pay 5s., and Mr. Shakspere 3s. 4d. This is Malone's first "decisive proof" of "distressed circumstances." The record adds, "the inhabitants of every ward are taxed, as by the notes delivered to them it may appear." There was clearly, then, a variable tax, determined probably according to the nature of the occupancy of each inhabitant. Is it possible to imagine that the corporation sat in inquisition on the means of their own members? But we have another of these "decisive proofs." In a hall of 1578 "it is ordained that every alderman shall pay weekly towards the relief of the poor 4d., saving John Shakspere and Robert Bratt, who shall not be taxed to pay anything." Can we believe that this was on account of their reputed poverty? Would the undoubted possessor of two houses in Stratford, and the ostensible proprietor of an estate in the neighbourhood, have been excused by reason of "distressed circumstances?" Do fiscal officers ever act in this way? Do those who have to labour under fallen means ever proclaim their poverty in this way? In 1579 there is an account rendered of moneys levied by certain officers upon the inhabitants for armour, &c.; and Master Shakspere, with two other *masters*, besides various plain Johns and Thomases, are returned for sums unpaid. This is held to be another decisive proof of "distressed circumstances;" The tax-collectors' books of the year 1841, if they come to be examined three centuries hence, will show many such defaulters who will die worth a plum. A man's will, too, has been found, reciting a debt of five pounds owing to him by Mr. John Shakspere, for which two of his friends appear to have been security. Malone boldly maintains that this is a proof of "insolvency." Lastly, in 1586, a return is made into the Bailiff's Court, upon an action for debt, upon which distraint was ordered against John Shakspere; and the return sets forth that he has nothing upon which distress can be levied. This would, indeed, imply a breaking up of the family, a scattering of all their worldly goods. But Malone, who has taken very laudable pains to show that their was *another* John Shakspere in Stratford, the shoemaker, who married in 1584, and actually received a *loan out of a charity-fund* about that time, does not suggest the possibility that *this* might be the John Shakspere who had no goods to be taken in execution. The return in the Bailiff's Court does not designate the debtor by the alderman's received title of *master*, or *magister*. The rise, however, of our poet's father must have been as rapid as his fall—if he had fallen; for there is a memorandum affixed to the grant of arms in 1596—"he hath lands and tenements, of good wealth and substance, 500*l*." Malone assumes that this is a fiction of the Heralds' Office. Why cannot we, who read the past thus darkly—who even know so little of the present—be content with what is obvious in private or public history? Why must we be so all-penetrating?

Inquiries such as these would be worse than useless, unless they had some distinct bearing on the probable career of William Shakspere. Of the earlier part of that career nothing can, probably, ever be known with certainty. He may have been taken from school, according to Rowe, to assist his father in his trade of a dealer in wool; he might have carried out gloves—yea, even killed a calf in a high style—without inducing a belief in our minds that he was not doing something higher at a very early age. But we believe that he was doing none of these things. His father added to his independent means, we have no doubt, by combining several occupations in the principal one of looking after a little land; exactly in the way which Harrison has described. Shakspere's youth was, in all probability, one of very desultory employment, which afforded him leisure to make those extraordinary acquisitions of general knowledge which could scarcely have been made, or rather the foundations of which could not have been established, during the active life which we believe he led from about his twentieth year. It is in this manner, we are inclined to think, that we must reconcile the contradictory traditions of his early employment. As his father, carrying on various occupations connected with his little property, might, after the lapse of years, have been a woolman in the imperfect recollection of some, and a butcher in that of others, so his illustrious son, having no very settled employment, may have been either reputed an assistant to his father, a lawyer's clerk, a schoolmaster, or a wild scapegrace, according to the imperfect chroniclers of a country-town, who, after he returned amongst them a rich man, would rejoice in gossiping over the wondrous doings of the boy. It is thus, we believe, that old Aubrey, having been amongst the parish-clerks and barbers of Stratford some fifty years after Shakspere was dead, tells us, "from Mr. Beeston"—"though, as Ben Jonson says of him, that he had but little Latin and less Greek, he understood Latin pretty well, for he had been *in his younger years* a schoolmaster in the country." His precocious gravity as a schoolmaster must have been as wonderful as his poetical power; for Aubrey also tells us, "this William, being inclined naturally to poetry and acting, came to London, I guess about *eighteen*, and did act exceedingly well......He began *early* to make essays at dramatic poetry, which at that time was very low, and his plays took well." Here, we think, is a statement not very far from the truth,—a statement derived from Aubrey's London information. The stories of the butcher and the schoolmaster were Stratford traditions, perhaps also with some shadow of reality about them. It is held by some that Shakspere had been a lawyer. It is not unlikely,—it is highly probable. His plays abound with legal phraseology, employed invariably with technical exactness. But then Shakspere, out of the abundance of his knowledge, employs other technical and professional modes of thought and expression with equal correctness; and the practice as well as the grounds of law were in those days familiar to most educated men. But if he had not been in an attorney's office, he had the reputation of having been so engaged. In an 'Epistle to the Gentlemen Students of the two Universities,' prefixed to Greene's 'Arcadia,' and published in 1589, Thomas Nashe thus speaks of a play which there can be little difficulty in believing to have been the first draft of Shakspere's 'Hamlet;'—Shakspere was then twenty-five, and a sharer in the Blackfriars Theatre. "It is a common practice now-a-days, among a sort of shifting companions, that run through every art and thrive by none, to leave the trade of *Noverint*, whereto they were born, and busy themselves with the endeavours of art, that could scarcely latinise their neck-verse if they should have need; yet English Seneca, read by candlelight, yields many good sentences, as *blood is a beggar*, and so forth; and, if you entreat him far in a frosty morning, he will afford you whole *Hamlets*, I should say handfuls, of tragical speeches." Greene and Nashe were proud of their scholarship; they were University-men; rival writers for the stage. They were loose and profligate persons, yet ready enough to sneer at "shifting companions, that run through every art and thrive by none." The "trade of *Noverint*" was a name for the lawyers' trade, the common writs beginning with *Noverint*. The application of this spite to some author of some '*Hamlet*' is perfectly clear, and the only doubt can be whether Shakspere's 'Hamlet' was then in being. No other 'Hamlet' is known. We have expressed a decided opinion that Shakspere had written 'Hamlet,' and other plays, in 1589.* Had he pursued "the trade of *Noverint*" in the country? It was observed to us by Mr. Wheler that he had inspected hundreds of title-deeds and other documents bearing date from 1580 to 1590, in the hope to find William Shakspere's signature; and that, if he had been a lawyer's clerk in Stratford, or indeed in any neighbouring town, his signature must have been attached to some document as an attesting witness, that formality being then required on the slightest occasions. This is certainly strong evidence against the belief that he was in the office of an attorney at Stratford. Might he have gone to London, there to apply himself to the legal profession? The passage from the office-desk to the Blackfriars Theatre was not a very difficult transition. But we must go back for a short time before we place Shakspere in London.

The earliest connected narrative of Shakspere's life, that of Rowe, thus briefly continues the history of the boy:—"Upon his leaving school he seems to have given entirely into that way of living which his father proposed to him; and in order to settle in the world after a family manner, he thought fit to marry while he was yet very young. His wife was the daughter of one Hathaway, said to have been a substantial yeoman in the neighbourhood of Stratford." The information which Betterton thus collected as to Shakspere's early marriage was perfectly accurate. He did marry "the daughter of one Hathaway," and he was no doubt "a substantial yeoman in the neighbourhood of Stratford." At Shottery, a pretty village within a mile of the town, there is yet a farm-house, now divided into two tenements, where it is affirmed that Hathaway dwelt. By a copy of Court Roll, of the date of 1543, it appears that John Hathaway then held a copyhold estate at Shottery. The identical farm-house or cottage, with its little garden and orchard, remained in the possession of the descendants of the Hathaways till 1838: it was then sold. William Shakspere was married to Anne Hathaway before the close of the year 1582. He was then eighteen years and a half old. This was, indeed, an early marriage. His wife was considerably older than himself. Her tombstone states that she died "the 6th day of August, 1623, being of the age of sixty-seven years." In 1623 Shakspere would have been fifty-nine years old. The marriage bond and licence was discovered amongst the papers of the Consistorial Court at Worcester, in 1836; and was published by Mr. Wheler, in the 'Gentleman's Magazine.' The bondsmen are, Fulk Sandells, of Stratford, farmer, and John Richardson, of the same place, farmer, and they are held and bound in the sum of 40*l*., &c. This bond is dated the 28th of November, in the 25th year of Elizabeth—that is, in 1582. The bondsmen subscribe their marks. The licence, affixed to the bond, then proceeds as follows :—

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* See 'Pictorial Edition of Shakspere,' edited by Charles Knight. Introductory Notice to Hamlet; Essay on Henry VI., &c.

"The condition of this obligation is such, that if hereafter there shall not appear any lawful let or impediment by reason of any precontract or affinity, or by any other lawful means whatsoever, but that William Shakspere on the one party, and Anne Hathway of Stratford, in the diocese of Worcester, maiden, may lawfully solemnise matrimony, and in the same afterwards remain and continue like man and wife, according unto the laws in that case provided; and moreover, if there be not at this present time any action, suit, quarrel, or demand, moved or depending before any judge ecclesiastical or temporal, for and concering any such lawful let or impediment; and moreover, if the said William Shakspere do not proceed to solemnization of marriage with the said Anne Hathway without the consent of her friends; and also if the said William Shakspere do upon his own proper costs and expenses defend and save harmless the Right Reverend Father in God Lord John Bishop of Worcester and his officers for licensing them, the said William and Anne, to be married together with once asking of the bans of matrimony between them, and for all other causes which may ensue by reason or occasion thereof, that then the said obligation to be void and of none effect, or else to stand and abide in full force and virtue."

The remarkable part of this licence is that they were to be married "with *once* asking of the bans;" they were not to be married "without the consent" of Anne's friends. There is no record where they were married. In 1583 an entry, of which we give the fac-simile (No. 3), is found in the Stratford Register of Baptisms.

The entry is the fourth of the month, the word *May* being attached to the first entry of the month. A comparison of the dates of the marriage licence and the baptism of Shakspere's first child leads to the obvious conclusion that the same fault into which the courtly Raleigh and the high-born Elizabeth Throgmorton had fallen had disturbed the peace of the humble family of the Hathaways, and had no doubt made the mother of the imprudent boy-poet weep bitter tears. But there was instant reparation—a reparation, too, that must have been the voluntary act of him who had committed the error. The troth-plight had no doubt preceded the legal marriage. There was, however, no public shame. William Shakspere was an inhabitant of Stratford, and his wife is denoted as such in the licence;—and there they dwelt when they were married;—and there their children were born;—and there they lived in their later years in opulence;—and there they died. We can see no useful purpose to be served in drawing inferences unfavourable to the general character of Shakspere's wife from the document which has been discovered, and especially in assuming that domestic unhappiness banished him from Stratford.

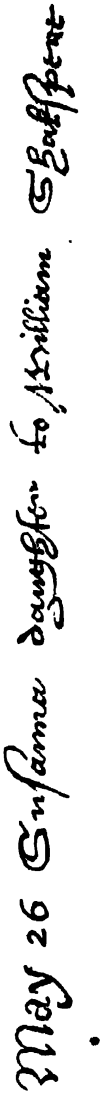
There is a remarkable passage in the comedy of 'Twelfth Night' which has been supposed to bear upon the private history of Shakspere; and there is another in the 'Tempest,' in which Prospero pronounces a solemn charge to Ferdinand, which is supposed to bear upon the circumstances which led to his own hasty marriage. We believe that such conjectures are in general founded upon a misapprehension of the dramatic spirit in which he worked; and that such notions especially as that he was himself jealous, because he has so truly depicted the passion of jealousy,—or that he had himself felt the bitter pang of filial irreverence, because he had written,

> "Ingratitude! thou marble-hearted fiend,
> More hideous, when thou show'st thee in a child,
> Than the sea-monster!"—

are altogether idle and worthless. The details, however, of Shakspere's private life are so few, and the facts and traditions which have come down to us require such careful examination, that we need not be surprised that the language which he has held to be characteristic of the persons and incidents of his dramas should have been deemed, with more or less ingenuity, to be characteristic of himself, his actions, and his circumstances. Amongst the least overstrained of these applications is the passage in 'Twelfth Night;' and the inferences to be drawn from it are recommended by the opinion of one of the most original of living prose-writers :—

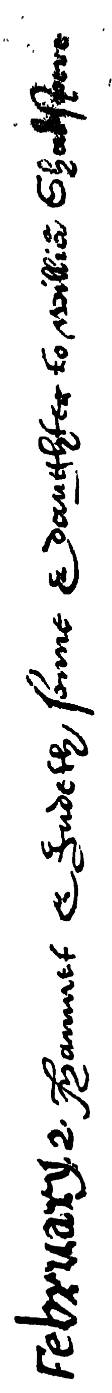
"Shakspere himself, looking back on his youthful history from his maturest years, breathes forth pathetic counsels against the errors into which his own inexperience had been ensnared. The disparity of years between himself and his wife he notices in a beautiful scene of the 'Twelfth Night.' The Duke Orsino, observing the sensibility which the pretended Cesario had betrayed on hearing some touching old snatches of a love-strain, swears that his beardless page must have felt the passion of love, which the other admits. Upon this the dialogue proceeds thus:—

> "'*Duke.* What kind of woman is't?
> *Viola.* Of your complexion.
> *Duke.* She is not worth thee then. What years, i' faith?
> *Viola.* About your years, my lord.



May 26 Susanna daughter to William Shakspere

[No. 3.]



February 2 Hamnet & Judeth sonne & daughter to William Shakspere

[No. 4.]

Duke. Too old, by heaven! *Let still the woman take*
An elder than herself; so wears she to him,
So sways she level in her husband's heart.
For, boy, however we do praise ourselves,
Our fancies are more giddy and unfirm,
More longing, wavering, sooner lost and worn,
Than women's are.
Viola. I think it well, my lord.
Duke. Then *let thy love be younger than thyself,*
Or thy affection cannot hold the bent;
For women are as roses; whose fair flower,
Being once display'd, doth fall that very hour.'

"These councils were uttered nearly twenty years after the event in his own life to which they probably look back; for this play is supposed to have been written in Shakspere's thirty-eighth year. And we may read an earnestness in pressing the point as to the *inverted* disparity of years, which indicates pretty clearly an appeal to the lessons of his personal experience."*

It is not our purpose in this place to enter into any minute examination of the reasonableness of the application of these lines to Shakspere's domestic history. Upon the general principle which we have stated,—that is, the wonderful subjection of his conception of what was individually true to what was universally true,—he would, we think, have *rejected* whatever was peculiar in his own experience, if it had been emphatically recommended to his adoption through the medium of his self-consciousness. In this belief we think that Mr. de Quincey's theory ought to be qualified by the consideration of the dramatic character of the person who proffers his advice to Viola. Although Olivia describes the Duke as of "fresh and stainless youth," his was not the youthfulness of which she was enamoured in Viola,—

"For they shall yet belie thy happy years
That say, thou art a man."

The advice which he gives to Viola is clearly in keeping with the whole conception of his character, the romance even of which is staid and dignified. But be this as it may, there is one thing perfectly clear, whether the Duke dramatically speaks, or whether Shakspere, speaking from his own experience, uses an unwonted earnestness in pressing the caution against "disparity of years" in marriage—he casts no reproach upon the female. There are two lines, which Mr. de Quincey has omitted in his quotation, not without their point in reference to the possibility of Shakspere in this scene looking back upon his youthful history, and breathing forth prophetic counsel. The quotation we have given ends with,

"For women are as roses, whose fair flower,
Being once display'd, doth fall that very hour."

But Viola adds,

"And so they are: alas that they are so;
To die, *even when they to perfection grow!*"

If the passage, then, is to be received as evidence of Shakspere's own feelings, it is to be received also as being condemnatory of himself, and as just, also, toward the object of his early love, then grown "to perfection." In the same way, if some portions of his private history are to be held as shadowed forth in the Sonnets,—if his fancies are there painted as "giddy and unfirm,"—these representations are always accompanied with bitter self-reproach,—never with any extenuation arising out of such circumstances as those to which in 'Twelfth Night' he is supposed to allude.

The cause which *drew* Shakspere from Stratford is thus stated by Rowe:—"He had, by a misfortune common enough to young fellows, fallen into ill company, and, amongst them, some that made a frequent practice of deer-stealing engaged him more than once in robbing a park that belonged to Sir Thomas Lucy, of Charlecote, near Stratford. For this he was prosecuted by that gentleman, as he thought, somewhat too severely; and in order to revenge that ill usage he made a ballad upon him. And though this, probably the first essay of his poetry, be lost, yet it is said to have been so very bitter, that it redoubled the prosecution against him to that degree that he was obliged to leave his business and family in Warwickshire for some time, and shelter himself in London." All this, amongst a great deal of falsehood, probably contained some tissue of the truth—such as the truth appeared to the good old folks of Stratford in Betterton's time, who had heard stories from their grandfathers of what a wild young fellow the rich man was who bought the largest house in Stratford. Malone gravely undertakes to get rid of the deer-stealing tradition, by telling us that there was no *park*, properly so called, at Charlecote. It is more material that the statute of the 5th of Elizabeth, which Malone also recites, shows clearly enough that the hunting, killing, or driving out deer from any park was a trespass, punished at the most with three months' imprisonment and treble damages. Sir Thomas Lucy, who was on terms of intimacy with the respectable inhabitants of Stratford, acting as arbitrator in their disputes, was not very likely to have punished the son of an alderman of that town with any extraordinary severity, even if his deer had been taken away. To kill a buck was then an offence not quite so formidable as the shooting of a partridge in our own times. But we may judge of the value of the tradition from some papers, originally the manuscripts of Mr. Fulman, an antiquary of the 17th century, which, with additions of his own, were given to Corpus Christi College, Oxford, on the decease of the Rev. Richard Davies, Rector of Sandford, Oxfordshire, in 1707. The gossip of Stratford had no doubt travelled to the worthy rector's locality, and rare gossip it is:—"*He* (Shakspere) was much given to all unluckiness, in stealing venison *and rabbits*, particularly from Sir Lucy, *who had him* OFT *whipt*, and SOMETIMES *imprisoned*, and at last made him fly his native country, to his great advancement. But his revenge was so great that he is his Justice *Clodpate*; and calls him a great man, and that, in allusion to his name, bore three *lowses* rampant for his arms." Is it necessary to do more than recite such legends to furnish the best answer to them? Poor Shakspere! oft whipped, sometimes imprisoned, forced to fly your native country,—your genius must have been wondrously harassed in your own good town; and yet, we are inclined to think, you composed your 'Venus and Adonis' there, and that there you were *much given* to something better than all unluckiness in stealing venison and rabbits! We shall have a few words to say about Rowe's "ballad" upon the prosecutor of poachers, and Davies's 'Justice Clodpate,' in some other place.

Early in 1585 two other children were born to him,—and they were baptized on the 2nd of February as "Hamnet and Judeth." (See Fac-simile, No. 4.)

Although John Shakspere, at the time of his son's early marriage, was not, as we think, "in distressed circumstances," his means were not such, probably, at any time, as to have allowed him to have borne the charge of his son's family. That William Shakspere maintained them by some honourable course of industry we cannot doubt. Scrivener or schoolmaster, he was employed. It is on every account to be believed that the altered circumstances in which he had placed himself, in connexion with the natural ambition which a young man, a husband and a father, would entertain, led him to London not very long after his marriage. There, it is said, the author of 'Venus and Adonis' obtained a subsistence after the following ingenious fashion:—"Many came on horseback to the play, and when Shakspere fled to London, from the terror of a criminal prosecution, his first expedient was to wait at the door of the playhouse, and hold the horses of those who had no servants, that they might be ready again after the performance. In this office he became so conspicuous for his care and readiness, that in a short time every man as he alighted called for Will Shakspere, and scarcely any other waiter was trusted with a horse while Will Shakspere could be had." The author of 'Venus and Adonis,' before he engaged in this dignified employment, which is described in the most circumstantial history before us as opening to him "the dawn of better fortune," had then, as we believe, written the finest description of a horse in the English language:—

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* Mr. de Quincey's 'Life of Shakspere' in the 'Encyclopædia Britannica,' 7th edit., vol. xx. p. 179.

"Round-hoof'd, short-jointed, fetlocks shag and long,
Broad breast, full eye, small head, and nostril wide,
High crest, short ears, straight legs, and passing strong,
Thin mane, thick tail, broad buttock, tender hide:
  Look, what a horse should have he did not lack,
  Save a proud rider on so proud a back."[*]

At the door of the playhouse, having described the horse, Will Shakspere was to make acquaintance with the proud riders of Elizabeth's court; and from this experience he was afterwards to produce the celebrated passage of—

"I saw young Harry with his beaver on,
His cuisses on his thighs, gallantly arm'd,
Rise from the ground like feather'd Mercury,
And vaulted with such ease into his seat
As if an angel dropp'd down from the clouds,
To turn and wind a fiery Pegasus,
And witch the world with noble horsemanship."[†]

Steevens objects to this surpassing anecdote of the horse-holding, and to the statement which follows, that Shakspere "hired boys to wait under his inspection," and that, "as long as the practice of riding to the playhouse continued, the waiters that held the horses retained the appellation of Shakspere's boys,"—he objects that the practice of *riding* to the playhouse never began, and was never continued, and that Shakspere could not have held horses at the playhouse-door because people went thither by water. We believe there is a stronger objection still: until *Will Shakspere* converted the English drama from a rude, tasteless, semi-barbarous entertainment, into a high intellectual feast for men of education and refinement, those who kept horses did not go to the public theatres at all. There were representations in the private houses of the great, which men of some wit and scholarship wrote, with a most tiresome profusion of unmeaning words, pointless incidents, and vague characterization,—and these were called plays; and there were "storial shows" in the public theatres, to which the coarsest melodrama that is now exhibited at Bartholomew Fair would be as superior as Shakspere is superior to the highest among his contemporaries. But from 1580 to 1585, when Shakspere and Shakspere's boys are described as holding horses at the playhouse-door, it may be affirmed that the English *drama*, such as we now understand by the term, had to be created. We believe that Shakspere was in the most eminent degree its creator. He had, as we think, written his 'Venus and Adonis,' perhaps in a fragmentary shape, before he left Stratford. It was first printed in 1593, and is dedicated to Lord Southampton. The dedication is one of the few examples of Shakspere mentioning a word of himself or his works:—"I know not how I shall offend in dedicating my unpolished lines to your Lordship, nor how the world will censure me for choosing so strong a prop to support so weak a burthen: only if your Honour seem but pleased, I account myself highly praised, and vow to take advantage of all idle hours till I have honoured you with some graver labour. But if the first heir of my invention prove deformed, I shall be sorry it had so noble a godfather, and never after ear so barren a land, for fear it yield me still so bad a harvest. I leave it to your honourable survey, and your Honour to your heart's content; which I wish may always answer your own wish and the world's hopeful expectation." The dedication is simple and manly. In 1593, then, Shakspere had an employment—a recognised one—for he speaks of "idle hours" to be devoted to poetry. He calls this poem, too, "the first heir of my invention." If it "prove deformed" he will "never after ear (plough) so barren a land." Will he give up writing for the stage then? It is a remarkable proof of the low reputation of the drama that even the great dramatic works which Shakspere had unquestionably produced in 1593 were not here alluded to. The drama scarcely then aspired to the character of poetry. The "some graver labour" which he contemplated was another *poem*; and he did produce another the next year, which he also dedicated to the same friend. This was the 'Rape of Lucrece.' Perhaps these poems were published to vindicate his reputation as a writer against the jealousies of some of the contemporary dramatists. But we still think that he used the term "first heir of my invention" in its literal sense; and that 'Venus and Adonis'—or at least a sketch of it—was the first production of his imagination, his invention. It bears every mark of a youthful composition; it would have been more easily produced by the Shakspere of eighteen or twenty than any of his earliest dramas. He had models of such writing as the 'Venus and Adonis' before him. Chaucer he must have diligently studied; Spenser had published his 'Shepherd's Calendar,' his Hymns to Love and Beauty, and other poems, when Shakspere's genius was budding amidst his native fields. But when he wrote 'Henry VI.' or the first 'Hamlet,' where could he seek for models of dramatic blank verse, of natural dialogue, of strong and consistent character? He had to work without models; and this was the real "graver labour" of his early manhood.

Our belief has been repeatedly expressed, during the publication of 'The Pictorial Edition of Shakspere,' that the great poet became a writer for the stage at a much earlier period than has been usually determined. Our general reasons for this opinion were formed, upon the publication of the first play in that edition; and we have seen no evidence which can induce us to depart from it. Up to the period when Shakspere reached the age of manhood there were no writers in existence competent to produce a play which can be called a work of art. The state of the drama generally is thus succinctly, but most correctly, noticed by a recent anonymous writer:—"From the commencement of Shakspere's boyhood, till about the earliest date at which his removal to London can be possibly fixed, the drama lingered in the last stage of a semi-barbarism. Perhaps we do not possess any monument of the time except Whetstone's 'Promos and Cassandra;' but neither that play, nor any details that can be gathered respecting others, indicate the slightest advance deyond a point of development which had been reached many years before by such writers as Edwards and Gascoyne. About 1585, or Shakspere's twenty-first year, there opened a new era, which, before the same decad was closed, had given birth to a large number of dramas, many of them wonderful for the circumstances in which they arose, and several possessing real and absolute excellence."[*] Of the poets which belong to this remarkable decad we possess undoubted specimens of the works of Lyly, Peele, Marlowe, Lodge, Greene, Kyd, and Nashe. There are one or two other inferior names, such as Chettle and Munday, connected with the latter part of this decad. We ourselves hold that Shakspere belongs to the first as well as to the second half of this short but most influential period of our literature. But the critics and commentators appear to have agreed that Shakspere, whose mental powers were bestowed upon him in the extremest prodigality of Nature, was of wonderfully slow growth towards a capacity for intellectual *production*. They have all amused themselves with imagining his careful progress, from holding horses at the playhouse-door, to the greater dignity of a candle-snuffer within its walls, till in some lucky hour, when his genius was growing vigorous—that is, at the age of twenty-seven—he produced a play. They have little doubt that Shakspere was in London, and connected with the theatre, as early as 1584; but then he had been a deer-stealer, and had seven years of probation to undergo! There was nothing extraordinary in Ben Jonson writing for the stage when he was only nineteen; but then Shakspere, you know, was an untutored genius, &c. &c.! A great deal of this monstrous trash has been swept away by the exertions of a gentleman equally distinguished for his acuteness and his industry. It has been discovered by Mr. Collier that in 1589, when Shakspere was only twenty-five, he was a joint proprietor in the Blackfriars Theatre, with a fourth of the other proprietors below him in the list. He had, at twenty-five, a standing in society; he had the means, without doubt, of maintaining his family; as he advanced in the proprietorship of the same theatre, he realised a fortune. How had he been principally occupied from the time he left Stratford, to have become, somewhat rapidly, a person of importance amongst his "friends and fellows?" We think, by making himself useful to them, beyond all comparison with others, by his writings. He may have begun badly; he may have written, wholly or in part, 'Andronicus.' But even in that play there is writing such as no other but Shakspere could have produced. We are apt always to measure Shakspere with himself, because we have been unaccustomed to look at him as a boy-writer. Ben Jonson, in his Induction to 'Bartholomew Fair,' first acted in 1614, makes one of the speakers say, "He that will swear Jeronimo or Andronicus are the best plays, yet shall pass unexcepted at here, as a man whose judgment shows it is constant, and hath stood still these five-and-twenty or thirty years." Five-and-twenty years before this time Shakspere was in his twenty-fifth year; whether he wrote or altered 'Andronicus,' he was two years younger than at the period when Malone considers that he commenced as a writer for the stage. Dr. Percy conjectures that 'Andronicus' was not Shakspere's, because Jonson refers it to a period when our poet was only twenty-five. We think the passage proves that Shakspere had written or revised 'Andronicus,' amongst other plays, before he was twenty-five. If we take the extreme period mentioned by Jonson, 'Andronicus' might have been produced by the Shakspere of twenty.

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[*] Venus and Adonis.

[†] Henry IV., Part I.

[*] Edin. Review, July, 1840, p. 469.

It appears to us, then, not improbable that even before Shakspere left Stratford he had attempted some play or plays which had become known to the London players. Thomas Greene, who, in 1586, was the fourth on the list of the Blackfriars shareholders, was said to be Shakspere's fellow-townsman. But the young poet might have found another and more important friend in the Blackfriars company:—Richard Burbage, the great actor, who in his own day was called "the English Roscius," was also of Shakspere's county. In a letter of Lord Southampton to the Lord Chancellor Ellesmere (written about 1608), introducing Burbage and Shakspere to the Chancellor, it is said:—"They are both of one county, and, indeed, almost of one town." It is perfectly clear, therefore, that Shakspere, from the easy access that he might have procured to these men, would have received inviting offers to join them in London, provided he had manifested any ability which would be useful to them. That ability, we have no doubt, was manifested by the production of original plays (as well as by acting) some time before he had attained the rank and profit of a shareholder in the Blackfriars company.

In 1589, the date of the document which proves that Shakspere was then a shareholder in the Blackfriars Theatre, the 'First Part of Henry VI.' was in existence. We m[illegible]t take the liberty of referring the reader to our 'Essay on [illegible]ry VI. and Richard III.' for the proof, according to our b[illegible]ef, that the First Part was *altogether* written by Shakspere, and not merely repaired by him, and also to various passages which exhibit the state of the drama principally as regarded the treatment of an historical subject just previous to the period when 'Henry VI.' was acted.

Rude as is the dramatic construction, and coarse the execution, of the relics of the period which preceded the transition state of the stage, there can be no doubt that these had their ruder predecessors,—dumb shows, with here and there explanatory rhymes, adapted to the same gross popular taste that had so long delighted in the Mysteries and Moralities which even still held a divided empire. The growing love of the people for "the storial shows," as Laneham calls the Coventry play of 'Hock Tuesday,' was the natural result of the active and inquiring spirit of the age. There were many who went to the theatre to be instructed. In the prologue to 'Henry VIII.' we find that this great source of the popularity of the early Histories was still active:—

> 'Such as give
> Their money out of hope they may believe,
> May here find truth too.'

Heywood, in his 'Apology for Actors,' thus writes in 1612:—"Plays have made the ignorant more apprehensive, taught the unlearned the knowledge of many famous histories, instructed such as cannot read in the discovery of our English Chronicles: and what man have you now of that weak capacity that cannot discourse of any notable thing recorded even from William the Conqueror, nay, from the landing of Brute, until this day, being possessed of their true use?" There is a tradition reported by Gildon, (which Warton believes, though Malone pronounces it to be a fiction,) that Shakspere, in a conversation with Ben Jonson upon the subject of his historical plays, said that, "finding the nation generally very ignorant of history, he wrote them in order to instruct the people in that particular." It is not necessary that we should credit or discredit this anecdote to come to the conclusion that, when Shakspere first became personally interested in providing entertainment and instruction for the people, there was a great demand already existing for that species of drama, which subsequently became important enough to constitute a class apart from Tragedy or Comedy. Our belief is that he was *the first* who saw the possibility of conducting this species of entertainment with dramatic skill—with integrity, if not unity, of action—with action interrupted indeed by the succession of events, but not dissevered—with force and consistency of character—with spirited dialogue and harmonious versification.

Looking at all the circumstances, we are inclined to believe that the 'First Part of Henry VI.' was Shakspere's earliest dramatic production;—and in the Essay above mentioned we have stated our reasons for that belief. They bear somewhat on the poet's early life; and we may therefore not improperly reprint, in an abridged form, that short portion of the Essay.

When William Shakspere was about five years of age a grant of arms was made by the College of Heralds to his father. This is the grant to which we have already alluded. It is not difficult to imagine the youthful Shakspere sitting at his mother's feet to listen to the tale of his "antecessor's" prowess; or to picture the boy led by his father over the field of Bosworth,—to [illegible] shown the great morass which lay between both armies,—and Radmoor Plain, where the battle began,—and Dickon's Nook, where the tyrant harangued his army,—and the village of Dadlington, where the graves of the slain still indented the ground. Here was the scene of his antecessor's "faithful and approved service." In the humble house of Shakspere's boyhood there was, in all probability, to be found a thick squat folio volume, then some thirty years printed, in which might be read, "what misery, what murder, and what execrable plagues this famous region hath suffered by the division and dissention of the renowned houses of Lancaster and York." This, to the generation of Shakspere's boyhood, was not a tale buried in the dust of ages; it was one whose traditions were familiar to the humblest of the land, whilst the memory of its bitter hatreds still ruffled the spirits of the highest. "For what nobleman liveth at this day, or what gentleman of any ancient stock or progeny is clear, whose lineage hath not been infested and plagued with this unnatural division?" In that old volume from which we quote, "the names of the histories contained" are thus set forth:— I. 'The *Unquiet Time* of King Henry the Fourth.' II. 'The *Victorious Acts* of King Henry the Fifth.' III. 'The *Troublous Season* of King Henry the Sixth.' IV. 'The *Prosperous Reign* of King Edward the Fourth.' V. 'The *Pitiful Life* of King Edward the Fifth.' VI. 'The *Tragical Doings* of King Richard the Third.' VII. 'The Politic Governance of King Henry the Seventh.' VIII. 'The Triumphant Reign of King Henry the Eighth.' This book was 'Hall's Cronicle.' How diligently the young man Shakspere had studied the book, and how carefully he has followed it in four of his chronicle histories,* there are abundant examples.

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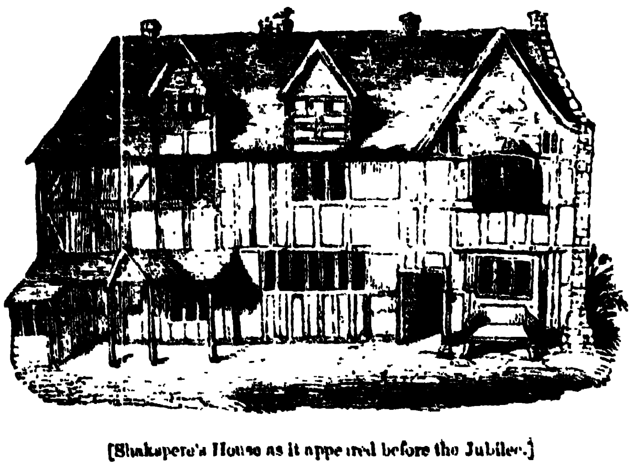
* The three Parts of Henry VI., and Richard III.

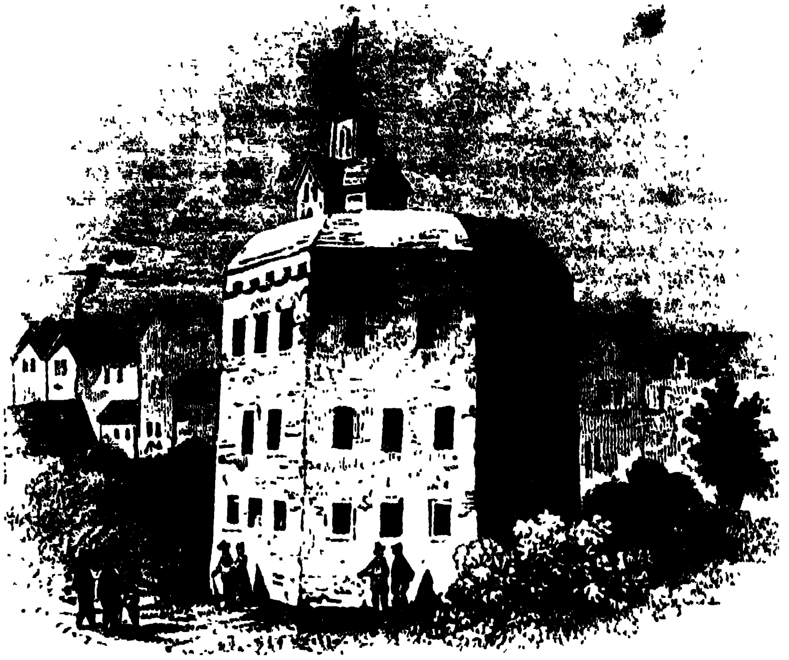
With the local and family associations, then, that must have belonged to his early years, the subject of these four dramas, or rather the subject of this one great drama in four parts, must have irresistibly presented itself to the mind of Shakspere, as one which he was especially qualified to throw into the form of a chronicle history. It was a task peculiarly fitted for the young poet during the first five years of his connexion with the theatre. Historical dramas, in the rudest form, presented unequalled attractions to the audiences who flocked to the rising stage. Without any undue reliance on his own powers, he might believe that he could produce something more worthily attractive than the rude dialogue which ushered in the "four swords and a buckler" of the old stage. He had not here to invent a plot; or to aim at the unity of action, of time, and of place, which the more refined critics of his day held to be essential to tragedy. The form of a chronicle history might appear to require little beyond a poetical exposition of the most attractive facts of the real Chronicles. It is in this spirit, we think, that Shakspere approached the execution of the 'First Part of Henry VI.' It appears to us, also, that in that very early performance he in some degree held his genius in subordination to the necessity of executing his task, rather with reference to the character of his audience and the general nature of his subject than for the fulfilment of his own aspirations as a poet. There was before him one of two courses. He might have chosen, as the greater number of his contemporaries chose, to consider the dominions of poetry and of common sense to be far sundered; and, unconscious or doubtful of the force of simplicity, he might have resolved, with them, to substitute what would more unquestionably gratify a rude popular taste,—the force of extravagance. On the other hand, it was open to him to transfer to the dramatic shape the spirit-stirring recitals of the old chronicle writers; in whose narratives, and especially in that portion of them in which they make their characters speak, there is a manly and straightforward earnestness which in itself not seldom becomes poetical. Shakspere chose this latter course. When we begin to study the 'Henry VI.,' we find in the First Part that the action does not appear to progress to a catastrophe; that the author lingers about the details, as one who was called upon to exhibit an entire series of events rather than the most dramatic portions of them;—there are the alternations of success and loss, and loss and success, till we somewhat doubt to which side to assign the victory. The characters are firmly drawn, but without any very subtle distinctions,—and their sentiments and actions appear occasionally inconsistent, or at any rate not guided by a determined purpose in the writer. It is easy to perceive that this mode of dealing with a complicated subject was the most natural and obvious to be adopted by an unpractised poet, who was working without models. But although the effect may be, to a certain extent, undramatic, there is impressed upon the whole performance a wonderful air of truth. Much of this must have resulted from the extraordinary quality of the poet's mind, which could tear off all the flimsy conventional disguises of individual character, and penetrate the real moving principle of events with a rare acuteness, and a rarer impartiality. The wonderful thing about the 'First Part of Henry VI.' is, that these men, who stood in the same relation of time to Shakspere's age as the men of Anne do to ours, should have been painted with a pencil at once so vigorous and so true. The English Chroniclers, in all that regards the delineation of characters and manners, give us abundant *materials* upon which we may form an estimate of actions, and motives, and instruments; but they do not show us the instruments moving in their own forms of vitality; they do not lay bare their motives; and hence we have no real key to their actions. Froissart is, perhaps, the only contemporary writer who gives us real portraits of the men of mail. But Shakspere marshalled them upon his stage, in all their rude might, their coarse ambition, their low jealousies, their factious hatreds,—mixed up with their thirst for glory, their indomitable courage, their warm friendships, their tender natural affections, their love of country. They move over his scene, displaying alike their grandeur and their littleness. He arrays them, equally indifferent whether their faults or their excellences be most prominent. This is the *truth* which Shakspere substituted for the vague delineations of the old stage.



[Shakspere's House as it appeared before the Jubilee.]

SHAKSPERE AND HIS WRITINGS.

(Concluded from No. 1.)



[The Globe Theatre. From Vischer's 'View of London.']

Edmund Spenser, in a poem entitled 'The Tears of the Muses,' originally published in 1591, describes, in the 'Complaint' of Thalia, the Muse of Comedy, the state of the drama at the time in which he is writing:—

> "Where be the sweet delights of learning's treasure,
> That wont with comic sock to beautify
> The painted theatres, and fill with pleasure
> The listeners' eyes, and ears with melody;
> In which I late was wont to reign as queen,
> And mask in mirth with graces well beseen?
>
> O! all is gone; and all that goodly glee,
> Which wont to be the glory of gay wits,
> Is lay'd a-bed, and nowhere now to see;
> And in her room unseemly Sorrow sits,
> With hollow brows and grisly countenance,
> Marring my joyous gentle dalliance.
>
> And him beside sits ugly Barbarism,
> And brutish Ignorance, ycrept of late
> Out of dread darkness of the deep abysm,
> Where being bred, he light and heaven does hate;
> They in the minds of men now tyrannize,
> And the fair scene with rudeness foul disguise.
>
> All places they with folly have possess'd,
> And with vain toys the vulgar entertain;
> But me have banished, with all the rest
> That whilom wont to wait upon my train,
> Fine Counterfesance, and unhurtful Sport,
> Delight, and Laughter, deck'd in seemly sort."

It can scarcely be affirmed that this poem was written in 1591, as well as published. Spenser was in England in 1590-1, having returned from Ireland with Raleigh, where he had composed the first three books of 'The Fairy Queen' by the side of Mulla's stream, which flowed near the old Castle of Doneraile, where he dwelt amidst his grants of forfeited lands. In 1590 he published these three first books of his great poem. But in the collection in which 'The Tears of the Muses' appears, the publisher, who was also the publisher of 'The Fairy Queen,' says that, "finding that that poem had found a favourable passage among all gentle readers," he "collected such small poems of the author as were dispersed abroad in sundry hands." It is likely that 'The Tears of the Muses' was written in 1590, and that Spenser described the prevailing state of the drama in London during the time of his visit. But we have tolerable evidence that the performances of the company at the Blackfriars Theatre, of which Shakspere was then a shareholder, were exceptions to the character of the general performances. In 1579 the actors at that theatre, then called the players of the Earl of Leicester, had a protection granted to them, that they should "be not restrained nor in any wise molested in the exercise of their quality, so that they may be enabled the better to perform before her Majesty for her solace and recreation." Under this sort of encouragement, the company to which Shakspere belonged had greatly flourished. But there were several other theatres in London. In some of these their licence to entertain the people was abused by the introduction of matters connected with religion and politics; so that in 1589 Lord Burghley not only directed the Lord Mayor to inquire what companies of players had offended, but a commission was appointed for the same purpose. How Shakspere's company proceeded during this inquiry has been made out most clearly by the valuable document discovered at Bridgewater House by Mr. Collier, wherein they disclaim to have conducted themselves amiss. They are now, it will be seen, "Her Majesty's poor players." The paper, which is as follows, is a petition to the Privy Council:—

"These are to certify your Right Honourable Lordships that her Majesty's poor players, James Burbadge, Richard Burbadge, John Laneham, Thomas Greene, Robert Wilson, John Taylor, Anth. Wadeson, Thomas Pope, George Peele, Augustine Phillips, Nicholas Towley, William Shakespeare, William

Kempe, William Johnson, Baptiste Goodale, and Robert Armyn, being all of them sharers in the Black Fryers playhouse, have never given cause of displeasure in that they have brought into their plays matters of state and religion, unfit to be handled by them or to be presented before lewd spectators; neither hath any complaint in that kind ever been preferred against them or any of them. Wherefore they trust most humbly in your Lordships' consideration of their former good behaviour, being at all times ready and willing to yield obedience to any command whatsoever your Lordships in your wisdom may think in such case meet, &c.

"*November*, 1589."

Here, then, Shakspere, a sharer in the theatre, but with others below him in the list, says, and they all say, that "they have never brought into their plays matters of state and religion." The public mind in 1589-90 was furiously agitated by "matters of state and religion." A controversy was going on which is now known as that of *Martin Marprelate*, in which the constitution and discipline of the Church were most furiously attacked in a succession of pamphlets; and they were defended with equal violence and scurrility. Isaac Walton says,—"There was not only one Martin Marprelate, but other venomous books daily printed and dispersed,—books that were so absurd and scurrilous, that the graver divines disdained them an answer." Walton adds,—"And yet these were grown into high esteem with the common people, till Tom Nashe appeared against them all, who was a man of a sharp wit, and the master of a scoffing, satirical, merry pen." Connected with this controversy, there was subsequently a more personal one between Nashe and Gabriel Harvey; but they were each engaged in the Marprelate dispute. Nashe was a writer for the theatre, and so was John Lyly, the author of one of the most remarkable pamphlets produced on this occasion, called, 'Pap with a Hatchet.' Harvey, it must be observed, was the intimate friend of Spenser; and in a pamphlet which he dates from Trinity Hall, November 5, 1589, he thus attacks the author of 'Pap with a Hatchet,' the more celebrated Euphuist, whom Sir Walter Scott's novel has made familiar to us:—

"I am threatened with a bable, and Martin menaced with a comedy—a fit motion for a jester and a player to try what may be done by employment of his faculty. Bables and comedies are parlous fellows to decipher and discourage men (that is the point) with their witty flouts and learned jerks, enough to lash any man out of countenance. Nay, if you shake the painted scabbard at me, I have done; and all you that tender the preservation of your good names were best to please Pap-Hatchet, and fee Euphues betimes, for fear lest he be moved, or some one of his apes hired, to make a play of you, and then is your credit quite undone for ever and ever. Such is the public reputation of their plays. He must needs be discouraged whom they decipher. Better anger an hundred other than two such that have the stage at commandment, and can furnish out vices and devils at their pleasure."*

The "bable" is the fool's bauble. We thus see that Harvey, the friend of Spenser, is threatened by one of those who "have the stage at commandment" with having a play made of him. Such plays were made in 1589, and Nashe thus boasts of them in one of his tracts printed in 1589:—"Methought *Vetus Comœdia* began to prick him at London in the right vein, when he brought forth Divinity with a scratched face, holding of her heart as if she were sick, because Martin would have forced her; but missing of his purpose, he left the print of his nails upon her cheeeks, and poisoned her with a vomit, which he ministered unto her to make her cast up her dignities." Lyly, taking the same side, writes,—"Would those *comedies* might be allowed to be played that are penned, and then I am sure he [Martin Marprelate] would be *deciphered*, and so perhaps *discouraged*." Here are the very words which Harvey has repeated,—"He must needs be *discouraged* whom they *decipher*." Harvey, in a subsequent passage of the same tract, refers to this prostitution of the stage to party purposes in very striking words:—"The stately tragedy scorneth the trifling comedy, *and the trifling comedy flouteth the new ruffianism*." These circumstances appear to us very remarkable, with reference to the state of the drama about 1590; and we hope that we do not attach any undue importance to them from the consideration that we are now the first to point out their intimate relation with Spenser's 'Tears of the Muses,' and the light which, as it appears to us, that poem *thus viewed* throws upon the dramatic career of Shakspere.

The four stanzas which we have quoted from Spenser are descriptive, as we think, of a period of the drama when it had emerged from the semi-barbarism by which it was characterised, "from the commencement of Shakspere's boyhood, till about the earliest date at which his removal to London can be possibly fixed."† This description has nothing in common with those accounts of the drama which have reference to this "semi-barbarism." Nor does the writer of it belong to the school which considered a violation of the unities of time and place as the great defect of the English theatre. Nor does he assert his preference of the classic school over the romantic, by objecting, as Sir Philip Sidney objects, that "plays be neither right tragedies nor right comedies mingling kings and clowns." There had been, according to Spenser, a state of the drama that would

"Fill with pleasure
The listeners' eyes, and ears with melody."

Can any comedy be named, if we assume that Shakspere had, in 1590, not written any, which could be celebrated—and by the exquisite versifier of the 'Fairy Queen'—for its "melody"? Could any also be praised for

"That goodly glee
Which wont to be the glory of gay wits"?

Could the plays before Shakspere be described by the most competent of judges—the most poetical mind of that age next to Shakspere—as abounding in

"Fine counterfesance, and unhurtful sport,
Delight, and laughter, deck'd in seemly sort"

We have not seen such a comedy, except some three or four of Shakspere's, which could have existed before 1590; we do not believe there is such a comedy from any other pen. What, according to the 'Complaint of Thalia,' has banished such comedy? "Unseemly Sorrow," it appears, has been fashionable;—not the proprieties of tragedy, but a Sorrow

"With *hollow brows* and *grisly* countenance;"—

the violent scenes of blood which were offered for the excitement of the multitude, before the tragedy of real art was devised. But this state of the drama is shortly passed over. There is something more defined. By the side of this false tragic sit "ugly Barbarism and brutish Ignorance." These are not the barbarism and ignorance of the *old* stage;—they are

"Ycrept *of late*
Out of dread darkness of the deep abysm."

They "*now* tyrannize;" they now "disguise" the fair scene "with *rudeness*." This description was published in 1591; it was probably written in 1590. The Muse of Tragedy, Melpomene, had previously described the "rueful spectacles" of "the stage." It was a stage which had no "true tragedy." But it *had* possessed

"Delight, and laughter, deck'd in seemly sort."

Now "the trifling comedy flouteth *the new ruffianism*." The words of Gabriel Harvey and Edmund Spenser agree in this. The bravos that "have the stage at commandment can furnish out vices and devils at their pleasure," says Harvey. This describes the *Vetus Comœdia*—the old comedy—of which Nashe boasts; and Mr. Collier tells us that the expression *Vetus Comœdia* shows that such a scurrilous performance as Nashe glories in was "evidently in the nature of an old Moral, not partaking of the improvements which, in 1589, had been introduced into dramatic poetry."‡ Can there be any doubt that Spenser had this state of things in view when he denounced the

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* 'Pierce's Supererogation.' Reprinted in 'Archaica,' p. 137.

† 'Edinburgh Review'—previously quoted.

‡ 'Annals of the Stage,' vol. i. p. 274.

"Ugly barbarism,
And brutish ignorance, ycrept of late
Out of dread darkness of the deep abysm"?

He denounced it in common with his friend Harvey, who, however he partook of the controversial violence of his time, was a man of learning and eloquence; and to whom only three years before he had addressed a sonnet of which the highest mind in the country might have been proud:—

"To the Right Worshipful my singular good Friend M. GABRIEL HARVEY, Doctor of the Laws.

Harvey, the happy above happiest men,
  I read, that, sitting, like a looker-on
Of this world's stage, dost note, with critic pen,
  The sharp dislikes of each condition;
And, as one careless of suspicion,
  Ne fawnest for the favour of the great,
Ne fearest foolish reprehension
  Of faulty men, which danger to thee threat;
But freely dost, of what thee list, entreat,
  Like a great lord of peerless liberty,
Lifting the good up to high honour's seat,
  And the evil damning evermore to die.
    For life and death is in thy doomful writing,
    So thy renown lives ever by inditing.

Dublin, this 18th of July, 1586.
Your devoted friend during life,
EDMUND SPENSER."

But we must return to the 'Thalia.' The four stanzas which we have quoted are immediately followed by these four others:—

"All these, and all that else the comic stage
  With season'd wit and goodly pleasure graced,
By which man's life in his likest image
  Was limned forth, are wholly now defaced;
And those sweet wits, which wont the like to frame,
Are now despis'd, and made a laughing game.

And he, the man whom Nature self had made
  To mock herself, and Truth to imitate,
With kindly counter, under mimic shade,
  Our pleasant Willy, ah! is dead of late:
With whom all joy and jolly merriment
Is also deaded, and in dolour drent.

Instead thereof scoffing Scurrility,
  And scornful Folly, with Contempt, is crept,
Rolling in rhymes of shameless ribaldry,
  Without regard, or due decorum kept;
Each idle wit at will presumes to make,
And doth the Learned's task upon him take.

But that same gentle spirit, from whose pen
  Large streams of honey and sweet nectar flow,
Scorning the boldness of such base-born men,
  Which dare their follies forth so rashly throw,
Doth rather choose to sit in idle cell
Than so himself to mockery to sell."

Here there is something even stronger than what has preceded it, in the direct allusion to the state of the stage in 1590. Comedy had ceased to be an exhibition of "seasoned wit" and "goodly pleasure;" it no longer showed "man's life in his likest image." Instead thereof there was "Scurrility"—"scornful Folly"—"shameless Ribaldry;"—and "each idle wit"

"doth the Learned's task upon him take."

It was the task of "the Learned" to deal with the high subjects of religious controversy—the "matters of state and religion," with which the stage had meddled. Harvey had previously said, in the tract so often quoted by us, it is "a godly motion, when *interluders* leave penning their pleasurable plays to become zealous ecclesiastical writers." He calls Lyly more expressly, with reference to this meddling, "the foolmaster of the theatre." In this state of things the acknowledged head of the comic stage was silent for a time:—

"HE, the man whom Nature self had made
  To mock herself, and Truth to imitate,
With *kindly* counter, under mimic shade,
  Our pleasant WILLY, ah! is dead of late."

And the author of the 'Fairy Queen' adds,

"But that same *gentle spirit*, from whose pen
  Large streams of honey and sweet nectar flow,
Scorning the boldness of such base-born men,
  Which dare their follies forth so madly throw,
Doth rather choose to sit in idle cell
Than so himself to mockery to sell."

The love of personal abuse had driven out real comedy; and there was *one* who, for a brief season, had left the madness to take its course. We cannot doubt that

"HE, the man whom Nature self had made
To mock herself, and Truth to imitate,"

was *William Shakspere*. Dryden, as we are told by Rowe, always thought that these verses related to Shakspere. Mr. Collier, in his 'History of Dramatic Poetry,' says of Spenser's 'Thalia,'—"Had it not been certain that it was written at so early a date, and that Shakspere *could not then* have exhibited his talents and acquired reputation, we should say at once that it could be meant for no other poet. It reads like a prophetic anticipation, which could not have been fulfilled by Shakspere until several years after it was published." Mr. Collier, when he wrote this, had not discovered the document which proves that Shakspere was a sharer in the Blackfriars Theatre at least a year before this poem was published. Spenser, we believe, described a real man, and real facts. He made no "prophetic anticipation;" there had been genuine comedy in existence; the ribaldry had driven it out for a season. The poem has reference to some *temporary* degradation of the stage; and what this temporary degradation was is most exactly defined by the public documents of the period, and the writings of Harvey, Nashe, and Lyly. The dates of all these proofs correspond with minute exactness. And who then is "*our pleasant Willy*," according to the opinion of those who would deny to Shakspere the title to the praise of the other great poet of the Elizabethan age? It is *John Lyly*,—the man whom Spenser's bosom friend was, at the same moment, denouncing as "the foolmaster of the theatre." Mr. Collier, however, dismisses Malone's laboured proofs of this theory in a very summary manner. Lyly did not merit Spenser's high praise, he says; neither did any other dramatic author prior to 1590. We say, advisedly, that there is *absolutely no proof* that Shakspere had *not* written 'The Two Gentlemen of Verona,' 'Love's Labour's Lost,' 'The Taming of the Shrew,' and 'A Midsummer Night's Dream,' amongst his comedies, before 1590: we believe that he alone merited that high praise; that it was meant for him. He had then probably written others of his comedies, which we possess in a revised shape. We *have* absolute proofs that he *had* written these four comedies, and five others, before 1600. He had then also written eight histories and three tragedies, according to the same proofs, to which we shall presently advert. The common theory is, tha he *began* to write for the stage in 1591, he having been, as Mr Collier has shown, a large proprietor in the Blackfriars Theatre in 1589. We ask that the author of *twenty plays*, which completely changed the face of the dramatic literature of England, should be supposed to have begun to write a little earlier than the age of twenty-seven; that we should assign some few of those plays to a period antecedent to 1590. We have reason to believe that, up to the close of the sixteenth century, Shakspere was busied as an actor as well as an author. It is something too much to expect, then, even from the fertility of his genius, occupied as he was, that he should have produced twenty plays in nine years; and it is still more unreasonable to believe that the consciousness of power which he must have possessed should not have prompted him to enter the lists with other dramatists, (whose highest productions may, without exaggeration, be stated as every way inferior to his lowest,) until he had gone through a probation of six or seven years' acquaintance with the stage as an humble actor. We cannot reconcile it to probability that he who ceased to be an actor when he was forty should have been contented to have been only an actor till he was twenty-seven. We pertinaciously cling to the belief that Shakspere, by commencing his career as a dramatic writer some four or five years earlier than is generally maintained, may claim, in common with his less illustrious early contemporaries, the praise of being one of the great founders of our dramatic literature, instead of being the mere follower and improver of Marlowe, and Greene, and Peele, and Kyd. We shall think ourselves fortunate if we have made out an additional proof of Shakspere's early excellence from the interpretation we have now given of the 'Thalia' of Spenser.

But there is another poem of Spenser, published in 1595, in which Shakspere is mentioned, there can be little doubt, with reference to another variety of his excellence. In 'Colin Clout's come home again" we have a description of the "Shepherds" of "Cynthia's" court—the court of Elizabeth—who are able "her name to glorify." These, with the exception of two, are mentioned under feigned names. Daniel, one of the two, is noticed as "a new shepherd." To whom can this description apply?—

> "And there, though last not least, is *Ætion;*
> A *gentler* shepherd may nowhere be found,
> Whose muse, full of high thoughts' invention,
> Doth, like himself, heroically sound."

Verstegan, in his 'Restitution of Decayed Intelligence,' speaking of the surnames of our ancient families, says, "Breakspear, *Shakespear*, and the like, have been surnames imposed upon the first bearers of them for valour and feats of arms." Fuller in his 'Worthies' quaintly compares William Shakspeare to "Martial" (the Roman poet) "in the warlike sound of his surname (whence some may conjecture him of a military extraction), *Hasti-vibrans*, or Shake-speare." Ben Jonson has a somewhat similar fancy:—

> "He seems to shake a lance
> As brandish'd in the eyes of Ignorance."

Spenser, it would appear, adopted the same association with the name of Shakspere, whose muse

> "Doth, like himself, heroically sound."

The "pleasant Willy" had now, we think, quitted

> "Fine counterfesance and unhurtful sport,"

for "high thoughts' invention." The author of the early plays of 'Henry VI.' had struck a bolder note in the 'Richard II.' and 'Richard III.' He had more completely become the poet of the chivalrous times of England. It has been the fashion to hold that Shakspere's first historical plays were only the patchwork in which he joined something of his own to the less finished productions of other poets; and it has been also held that he did this somewhat dishonestly. We have endeavoured to show in the 'Essay on Henry VI.' that these opinions are without foundation. We abbreviate a passage from that Essay which has more especial reference to Shakspere's personal history and character. It has been maintained that the two plays which form the staple of what we call the Second and Third Parts of 'Henry VI.' were not written by Shakspere, but by Greene or Peele, two contemporary dramatists, or both together. Those two plays were called the First and Second Parts of the 'Contention of the Two Houses of York and Lancaster;' and the second of them was sometimes called 'The True Tragedy of Richard Duke of York.' We have no hesitation in saying, comparing these original plays with Greene's acknowledged productions, that the character of his mind, and his habits of composition, rendered him utterly incapable of producing, not the two Parts of the 'Contention,' or one Part, but a single sustained scene of either Part. Those who have maintained the contrary opinion have not done so upon any examination of Greene's works, but [illegible] upon their interpretation of a passage in a posthumous pamphlet, in which he unquestionably makes some vague charges against Shakspere. Greene died in 1593.

The entire pamphlet of Greene's is, perhaps, one of the most extraordinary fragments of autobiography that the vanity or the repentance of a sinful man ever produced. The recital which he makes of his abandoned course of life involves not only a confession of crimes and follies which were common to a very licentious age, but of particular and especial depravities, which even to mention argues as much shamelessness as repentance. The portion, however, which relates to the subject before us stands alone, in conclusion, as a friendly warning out of his own terrible example:—"To those gentlemen, his quondam acquaintance, that spend their wits in making plays, R. G. wisheth a better exercise, and wisdom to prevent his extremities." To three of his quondam acquaintance the dying man addresses himself. To the first, supposed to be Marlowe—"thou famous gracer of tragedians"—he speaks in words as terrible as came from

> "that warning voice, which he who saw
> Th' Apocalypse heard cry in heav'n aloud."

In exhorting his friend to turn from atheism he ran the risk of consigning him to the stake, for Francis Kett was burnt for his opinions only three years before Greene's death. Marlowe resented this address to him. With his second friend, supposed to be Lodge, his plain speaking is much more tender: "Be advised, and get not many enemies by bitter words." He addresses the third, supposed to be Peele, as one "driven as myself to extreme shifts;" and he adds, "thou art unworthy better hap, sith thou dependest on so mean a stay." What is the stay? "Making plays." The exhortation then proceeds to include the three "gentlemen his quondam acquaintance that spend their wits in making plays."—"Base-minded men all three of you, if by my misery ye be not warned: for unto none of you, like me, sought those burs to cleave; those puppets, I mean, that speak from our mouths; those antics garnished in our colours." Up to this point the meaning is perfectly clear. The puppets, the antics,—by which names of course are meant the players, whom he held, and justly, to derive their chief importance from the labours of the poet, in the words which they uttered and the colours with which they were garnished,—had once cleaved to him like burs. But a change had taken place: "Is it not strange that I, to whom they all have been beholding—is it not like that you, to whom they all have been beholding, shall, were ye in that case that I am now, be, both, of them at once forsaken?" This is a lamentable picture of one whose powers, wasted by dissipation and enfeebled by sickness, were no longer required by those to whom they had once been serviceable. As he was forsaken, so he holds that his friends will be forsaken. And chiefly for what reason? "Yes, trust them not: for there is an upstart crow, beautified with our feathers, that, with *his tiger's heart wrapped in a player's hide*, supposes he is as well able to bombast out a blank-verse as the best of you: and, being an absolute Johannes factotum, is in his own conceit the only Shake-scene in a country." There can be no doubt that Shakspere was here pointed at; that the starving man spoke with exceeding bitterness of the successful author; that he affected to despise him as a player; that, if "beautified with our feathers" had a stronger meaning than "garnished with our colours," it conveyed a vague charge of borrowing from other poets; and that he parodied a line from the 'True Tragedy of Richard the Second,' "his tiger's heart," &c. This is literally every word that can be supposed to apply to Shakspere. Greene proceeds to exhort his friends "to be employed in more profitable courses."—"Let these apes imitate your past excellence, and never more acquaint them with your admired inventions."—"Seek you better masters." It is perfectly clear that these words refer only to the players generally; and, possibly, to the particular company of which Shakspere was a member. As such, and such only, must he take his share in the names which Greene applies to them, of "apes,"—"rude grooms,"—"buckram gentlemen,"—"peasants,"—and "painted monsters." It will be well to give the construction that has been put upon these words, in the form in which the "hypothesis" was first propounded by Malone:—

"Shakspeare having therefore, probably not long before the year 1592, when Greene wrote his dying exhortation to his friend, new-modelled and amplified these two pieces, (the two Parts of the 'Contention,') and produced on the stage what in the folio edition of his works are called the Second and

Third Parts of 'King Henry VI.,' and having acquired considerable reputation by them, Greene could not conceal the mortification which he felt at his own fame, and that of his associate, both of them old and admired playwrights, being eclipsed by a new *upstart* writer (for so he calls our great poet), who had then first perhaps attracted the notice of the public by exhibiting two plays, formed upon old dramas written by them, considerably enlarged and improved. He therefore, in direct terms, charges him with having acted like the crow in the fable, *beautified himself with their feathers;* in other words, with having acquired fame *furtivis coloribus*, by new-modelling a work originally produced by them: and wishing to depreciate our author, he very naturally quotes a line from one of the pieces which Shakspeare had thus *re-written*, a proceeding which the authors of the original plays considered as an invasion both of their literary property and character. This line, with many others, Shakspeare adopted without any alteration. The very term that Greene uses,—'to *bombast* out a blank-verse,'—exactly corresponds with what has been now suggested. This new poet, says he, knows as well as any man how to *amplify* and swell out a blank-verse. *Bumbast* was a soft stuff of a loose texture, by which garments were rendered more swelling and protuberant."

Thus, then, the starving and forsaken man—rejected by those who had been beholding to him; wanting the very bread of which he had been robbed, in the appropriation of his property by one of those who had rejected him; a man, too, prone to revenge, full of irascibility and self-love—contents himself with calling his plunderer "an upstart crow, beautified with our feathers"—"A Johannes factotum"—"The only Shake-scene in the country." "He could not conceal his mortification!" It would have been miraculous if he could. And how does he exhibit it? He parodies a line from one of the productions of which he had been so plundered, to carry the point home—to leave no doubt as to the sting of his allusion. But, as has been most justly observed, the epigram would have wanted its sting if the line parodied had not been that of the very writer attacked. Be this as it may, the dying man, for some cause or other, chose to veil his deep wrongs in a sarcastic allusion. He left the manuscript containing this allusion to be published by a friend; and it was so published. But the matter did not stop here. Chettle, also a player, the editor of the posthumous work, actually apologised to the "upstart crow:"—"I am as sorry as if the original fault had been my fault, because myself hath seen his demeanour no less civil than he excellent in the quality he professes; besides divers of worship have reported his uprightness of dealing, which argues his honesty, and his facetious grace in writing, that approves his art." This apology was not written by Chettle at some distant period; it came out in the same year with the pamphlet which contained the insult. The terms which he uses—"uprightness of dealing," and "facetious grace in writing"—seem as if meant distinctly to refute the vague accusation of "beautified with our feathers." It is perfectly clear that Chettle could not have used these terms if Shakspere had been the wholesale plunderer either of Greene or of any other writer that it is assumed he was by those who deprive him of the authorship of the two Parts of the 'Contention.' If he had been this plunderer, and if Chettle had basely apologised for a truth uttered by his dying friend, would the matter have rested there? Were there no Peeles, and Marlowes, and Nashes in the world to proclaim the dishonour of the plagiarist and the apologist? No one repeated the calumny, though doubtless some believed it. Probably never yet any great author appeared in the world who was not reputed, in the outset of his career, to be a plagiarist; or any great literary performance, produced by one whose reputation had to be made, that was not held to be written by some one else than the man who did write it:—there was some one behind the curtain—some mysterious assistant—whose possible existence was a consolation to the envious and the malignant. Examples in our own day are common enough. If Shakspere felt an honest indignation in being attacked in this way as "an upstart crow beautified with our feathers," it must have been consoling to have had the greatest of his poetical contemporaries speak at the same period of him as "full of high thoughts' invention."

If we have succeeded in establishing a just ground for belief that the "pleasant Willy" of Spenser's 'Thalia' was William Shakspere, we have at once disposed of the assertion that he had attained no reputation previous to 1592. Malone connects the supposed date of Shakspere's commencement as a dramatic writer with the notice of him by some of his contemporaries. He passes over Nashe's "whole Hamlets" in 1589; he maintains that the description of the "gentle spirit," who

> "Doth rather choose to sit in idle cell
> Than so himself to mockery to sell,"

applied not to Shakspere, but to Lyly, who was at that instant most active in "mockery;" but he fixes Shakspere with having begun to write in 1592, because Greene, in 1593, ridicules him as the "only Shake-scene in the country." In an age when there were no newspapers and no reviews, it must be extremely difficult to trace the course of any man, however eminent, by the notices of the writers of his times. An author's fame then was not borne through every quarter of the land in the very hour in which it was won. More than all, the reputation of a dramatic writer could scarcely be known, except to a resident in London, until his works were committed to the press. The first play of Shakspere's which was printed was 'The First Part of the Contention' ('Henry VI.,' Part II.), and that did not appear till 1594. Now, Malone says, "In Webbe's 'Discourse of English Poetry,' published in 1586, we meet with the names of most of the celebrated poets of that time; particularly those of George Whetstone and Anthony Munday, who were dramatic writers; but we find no trace of our author, or of any of his works." But Malone does not tell us that in Webbe's 'Discourse of Poetry' we meet with the following passage:—

"I am humbly to desire pardon of the learned company of gentlemen scholars, and students of the Universities and Inns of Court, if I omit their several commendations in this place, which I know a great number of them have worthily deserved, in many rare devices and singular inventions of poetry: for neither hath it been my good hap to have seen all which I have heard of, neither is my abiding in such place where I can with facility get knowledge of their works."

"Three years afterwards," continues Malone, "Puttenham printed his 'Art of English Poesy;' and in that work also we look in vain for the name of Shakspeare." The book speaks of the one-and-thirty years' space of Elizabeth's reign; and thus puts the date of the writing a year earlier than the printing. But we here look in vain for some other illustrious names besides those of Shakspere. Malone has not told us that the *name* of Edmund Spenser is not found in Puttenham; nor, what is still more uncandid, that not one of Shakspere's early dramatic contemporaries is mentioned—neither Marlowe, nor Greene, nor Peele, nor Kyd, nor Lyly. The author evidently derives his knowledge of "poets and poesy" from a much earlier period than that in which he publishes. He does not mention Spenser by *name* but he does "that other gentleman who wrote the late 'Shepherd's Calendar.'" The 'Shepherd's Calendar' of Spenser was published in the year 1579. Malone goes on to argue that the omission of Shakspere's name, or any notice of his works, in Sir John Harrington's 'Apology of Poetry,' printed in 1591, in which "he takes occasion to speak of the theatre and mentions some of the celebrated dramas of that time," is a proof that none of Shakspere's dramatic compositions had then appeared. The reader will be in a better position to judge of the value of this argument by a reference to the passage of Sir John Harrington:—

"For tragedies, to omit other famous tragedies: that, that was played at St. John's in Cambridge, of Richard III., would move, I think, Phalaris, the tyrant, and terrify all tyrannous-minded men." [This was a Latin play, by Dr. Legge, acted some years before 1588.] "Then for comedies. How full of harmless mirth is our Cambridge 'Pedantius' and the Oxford 'Bellum Grammaticale'!" [Latin plays again.] "Or, to speak of a London comedy, how much good matter, yea, and matter of state, is there in that comedy called the 'Play of the Cards,' in which it is showed how four parasitical knaves robbed the four principal vocations of the realm; videl. the vocation of soldiers, scholars, merchants, and husbandmen. Of which comedy, I cannot forget the saying of a notable wise counsellor that is now dead, who, when some (to sing Placebo) advised that it should be forbidden, because it was somewhat too plain, and indeed as the old saying is (sooth boord is no boord), yet he would have it allowed, adding it was fit that they which do that they should not, should hear that they would not."

Nothing, it will be seen, can be more exaggerated than Malone's statement, "He takes occasion to speak of the theatre, and mentions some of the celebrated dramas of that time." Does he mention 'Tamburlaine,' or 'Faustus,' or 'The Massacre of Paris,' or 'The Jew of Malta'? As he does not, it may be assumed with equal justice that none of Marlowe's compositions had appeared in 1591; and yet we know that he died in 1593. So of Lyly's 'Galathea,' 'Alexander and Campaspe,' 'Endymion,' &c. So of Greene's 'Orlando Furioso,' 'Friar Bacon,' 'James IV.' So of the 'Spanish Tragedy' of Kyd. The truth is, that Harrington in his notice of celebrated dramas was even more antiquated than Puttenham; and his evidence, therefore, in this matter is utterly worthless. But Malone has given his crowning proof that Shakspere had not written before 1591, in the following words:—

"Sir Philip Sidney, in his 'Defence of Poesie,' speaks at some length of the low state of dramatic literature at the time he composed this treatise, but has not the slightest allusion to Shakspeare, whose plays, had they then appeared, would doubtless have rescued the English stage from the contempt which is thrown upon it by the accomplished writer; and to which it was justly exposed by the wretched compositions of those who preceded our poet. 'The Defence of Poesie' was not published till 1595, but must have been written some years before."

There is one slight objection to this argument: Sir Philip Sidney was killed at the battle of Zutphen, in the year 1586; and it would really have been somewhat surprising if the illustrious author of the 'Defence of Poesy' could have included Shakspere in his account "of the low state of dramatic literature at the time he composed this treatise." If he had done anything in dramatic literature before 1586, he had done little. We have thus gone through all the usual proofs that Shakspere could not have written before 1591,—1593, according to some authorities,—and we leave our readers to judge of their value.

If the instances of the mention of Shakspere by his contemporaries during his lifetime be not numerous, we are compensated by the fulness and explicitness of one notice—that of Francis Meres, in 1598. Short as his notice is, it is by far the most valuable contribution which we possess towards the 'Life' of Shakspere. Meres was a master of arts of Cambridge, and subsequently entered the church. In 1598 he published a book called '*Palladis Tamia*, Wit's Treasury.' It is a collection of moral sentences from ancient writers, and it is described by Anthony Wood as "a noted school-book." Prefixed to it is 'A Comparative Discourse of our English Poets, with the Greek, Latin, and Italian Poets.' Nothing can be more decisive than this 'Comparative Discourse' as to the rank which, in 1598, Shakspere had taken amongst the most eminent of his contemporaries. It has been usual to quote only one passage from this treatise (which is indeed far the most important)—that in which Shakspere's works are recited,—but we prefer to quote the whole:—

"As the Greek tongue is made famous and eloquent by Homer, Hesiod, Euripides, Æschylus, Sophocles, Pindarus, Phocylides, and Aristophanes; and the Latin tongue by Virgil, Ovid, Horace, Silius Italicus, Lucanus, Lucretius, Ausonius, and Claudianus; so the English tongue is mightily enriched, and gorgeously invested in rare ornaments and resplendent habiliments, by Sir Philip Sidney, Spenser, Daniel, Drayton, Warner, Shakespeare, Marlow, and Chapman.

"As the soul of Euphorbus was thought to live in Pythagoras, so the sweet witty soul of Ovid lives in mellifluous and honey-tongued Shakespeare; witness his 'Venus and Adonis,' his 'Lucrece,' his sugared sonnets among his private friends, &c.

"As Plautus and Seneca are accounted the best for comedy and tragedy among the Latins, so Shakespeare, among the English, is the most excellent in both kinds for the stage; for comedy, witness his 'Gentlemen of Verona,' his 'Errors,' his 'Love Labours Lost,' his 'Love Labours Won,' his 'Midsummer's Night Dream,' and his 'Merchant of Venice;' for tragedy, his 'Richard II.,' 'Richard III.,' 'Henry IV.,' 'King John,' 'Titus Andronicus,' and his 'Romeo and Juliet.'

"As Epius Stolo said that the Muses would speak with Plautus's tongue, if they would speak Latin; so I say that the Muses would speak with Shakespeare's fine filed phrase, if they would speak English.

"As these tragic poets flourished in Greece—Æschylus, Euripides, Sophocles, Alexander Ætolus, Achæus Erithriæus, Astydamas Atheniensis, Apollodorus Tarsensis, Nicomachus Phrygius, Thespis Atticus, and Timon Appolloniates; and these among the Latins—Accius, M. Attilius, Pomponius Secundus, and Seneca; so these are our best for tragedy—the Lord Buckhurst, Doctor Leg of Cambridge, Doctor Edes of Oxford, Master Edward Ferris, the author of the 'Mirror for Magistrates,' Marlow, Peele, Watson, Kid, Shakespeare, Drayton, Chapman, Decker, and Benjamin Jonson.

"The best poets for comedy, among the Greeks, are these—Menander, Aristophanes, Eupolis Atheniensis, Alexis Terius, Nicostratus, Amipsias Atheniensis, Anaxandrides Rhodius, Aristonymus, Archippus Atheniensis, and Callias Atheniensis; and among the Latins, Plautus, Terence, Nævius, Sext. Turpilius, Licinius Imbrex, and Virgilius Romanus: so the best for comedy among us be—Edward Earl of Oxford, Doctor Gager of Oxford, Master Rowley (once a rare scholar of learned Pembroke Hall in Cambridge), Mr. Edwards (one of her Majesty's chapel), eloquent and witty John Lilly, Lodge, Gascoyne, Greene, Shakespeare, Thomas Nash, Thomas Heywood, Anthony Mundye (our best plotter), Chapman, Porter, Wilson, Hathway, and Henry Chettle."

The praise of Shakspere by Meres is much more detailed than that which he gives to any other writer. In his own peculiar walk, (comedy and tragedy,) he "is the most excellent in both kinds for the stage." The list of Shakspere's plays which Meres gives in 1598 can scarcely be supposed to be a complete one. Previous to 1598 there had been only printed the two Parts of the 'Contention,' 'Richard III.,' 'Richard II.,' and 'Romeo and Juliet.' Of the six comedies mentioned by Meres, not one had been published; neither had 'Henry IV.,' 'King John,' nor 'Titus Andronicus;' but, in 1597, 'Love's Labour's Lost,' and the 'First Part of Henry IV.,' had been entered in Stationers' Hall. Without the list of Meres, therefore, we could not have absolutely shown that the 'Two Gentlemen of Verona,' the 'Comedy of Errors,' the 'All's Well that Ends Well,' (which, we have every reason to think, was designated as 'Love Labours Won,') the 'Midsummer Night's Dream,' the 'Merchant of Venice,' the 'King John,' and the 'Titus Andronicus,' were written and produced before 1598. The list of Meres omits the original 'Hamlet' and the 'Taming of the Shrew,' which, we have reason to think, were produced before 1598; but, looking at Meres's list alone, how gloriously had Shakspere earned that reputation which he had thus acquired in 1598! He was then thirty-four years of age, but he had produced all his great historical plays, with the exception of 'Henry V.' and 'Henry VIII.' (we include 'Henry VI.' as a matter of course, because it must have preceded

'Richard III.'); he had given us 'Romeo and Juliet,' and had even "corrected and augmented" it; the stage was in possession, and the fame acknowledged, of six of his most delicious comedies. Before the close of that century we have little doubt that he had also produced 'Henry V.,' 'The Merry Wives of Windsor,' and 'Much Ado about Nothing.' It would be impossible in this place to attempt any classification of these plays in strict chronological order. In the 'Pictorial Edition of Shakspere' we have collected all the evidence which we could find to bear upon the particular date of each play; and we may here very briefly group them in cycles, according to the notions which we entertain of the separate dates.

If 'Titus Andronicus' were written by Shakspere, (and the *positive* evidence that it was so written is most distinct,) we must place it very early. It belongs unquestionably to the transition state of the drama; it is what Shakspere would not have written in his middle life; it is full of extravagant horrors; it is obnoxious to the censure of Charles Lamb that "blood is made as light of in some of these old dramas as money in a modern sentimental comedy." The versification, too, is more monotonous than that of Shakspere's later works. 'Pericles' is an example of a very different style of drama. It is the legendary tale of the old stage—a succession of adventures spread over a long series of years, without any very distinct cohesion—presenting passages of great vigour and beauty, in connexion with others contrasting remarkably in their feebleness. It has been shown satisfactorily enough that 'Pericles' was called a *new* play in 1608: and that it was very popular in the later Shaksperian period. But we cannot reconcile a belief in this with the internal evidence of the play itself. It may have been revived in 1608; it may then have been altered by the poet himself; but we must still cling to the opinion so confidently expressed by Dryden, that

> "Shakspere's own muse his 'Pericles' first bore."

The two plays of 'Titus Andronicus' and 'Pericles' are by many still considered as not written by Shakspere. Believing them to be very early plays, we may ask, Who else could have written them? Of the other plays assigned to Shakspere, and printed in one of the folio editions of his works, but whose genuineness cannot, we think, be asserted upon any unprejudiced examination of their internal evidence, it may be sufficient to mention the titles:—'Locrine,' 'Sir John Oldcastle,' d Cromwell,' 'The London Prodigal,' 'The Puritan.' It is not impossible that 'A Yorkshire Tragedy,' a very short and hasty performance of considerable power, may be Shakspere's.

To the period, then, from Shakspere's early manhood, from the time of his marriage, to 1591, the date of Spenser's 'Tears of the Muses,' we would assign not less than nine dramas, instead of believing that he first began to write in 1591. Some of those dramas may possibly then have been created in an imperfect state, very different from that in which we have received them.

If the 'Titus Andronicus' and 'Pericles' are Shakspere's, they belong to this epoch in their first state, whatever it might have been. We have no doubt that the three plays, in their original form, which we now call the three Parts of 'Henry VI.,' were his; and they also belong to this epoch. That 'Hamlet,' in a very imperfect state, probably more imperfect even than the sketch in the possession of the Duke of Devonshire, is the play alluded to by Nashe in 1589, we have no doubt. In the Duke of Devonshire's copy, dated 1603, there are passages, afterwards omitted, which decidedly refer to an early state of the stage. In that copy, for example, "Termagant" and "Herod" are mentioned, and this mention has reference to the time when these characters possessed the stage in pageants and mysteries. Again, the reproof of the extemporal clowns—the injunction that they should speak no more than is set down for them—applied to the infancy of the stage. Shakspere had reformed the clowns before the date usually assigned to 'Hamlet.' In a book, called 'Tarleton's Jeasts,' published in 1611, we have some specimens of the licence which this prince of clowns was wont to take. The author, however, adds, "But would I see our clowns *in these days* do the like? No, I warrant ye." In the original copy of 'Hamlet' the reproof of the clowns is more diffuse than in the augmented copy; and the following passage distinctly shows one of the evils which Shakspere had to contend with, and which he probably had overcome before the end of the sixteenth century:—"And then you have some again that keeps one suit of jests, as a man is known by one suit of apparel; and gentlemen quote his jests down in their tables before they come to the play, as thus: 'Cannot you stay till I eat my porridge? and, you owe me a quarter's wages; and, my coat wants a cullison; and, your beer is sour; and, blabbering with his lips, and thus keeping in his cinkapase of jests, when, God knows, the warm clown cannot make a jest unless by chance, as the blind man catcheth a hare: Masters, tell him of it." The additions to these directions to the players, in the augmented copy, are, on the other hand, such as bespeak a consciousness of the elevation which the stage had attained in its "high and palmy state," a little before the death of Elizabeth, when its purpose, as realised by Shakspere and Jonson especially, was "to hold, as 't were, the mirror up to nature; to show virtue her own feature, scorn her own image, and the very age and body of the time his form and pressure."

Amongst the comedies, that 'The Two Gentlemen of Verona' belongs to this cycle we have already mentioned our belief. Pope called the style of 'The Two Gentlemen of Verona' "simple and unaffected." It was opposed to Shakspere's later style, which is teeming with allusion upon allusion, dropped out of the exceeding riches of his glorious imagination. With the exception of the few obsolete words, and the unfamiliar application of words still in use, this comedy has, to our minds, a very modern air. The thoughts are natural and obvious, the images familiar and general. The most celebrated passages have a character of grace rather than of beauty; the elegance of a youthful poet aiming to be correct, instead of the splendour of the perfect artist, subjecting every crude and apparently unmanageable thought to the wonderful alchymy of his all-penetrating genius. Of 'Love's Labour 's Lost,' Coleridge, who always speaks of this comedy as a "juvenile drama"—"a young author's first work"—says, "The characters in this play are either impersonated out of Shakspere's own multiformity by imaginative self-position, *or out of such as a country town and a schoolboy's observation might supply.*" The story has most of the features which would be derived from an acquaintance with the ancient romances. The action of the comedy, and the higher actors, are the creations of one who was imbued with the romantic spirit of the middle ages. With these materials, and out of his own "imaginative self-position," might Shakspere have readily produced the King and Princess, the lords and ladies, of this comedy;—and he might have caught the tone of the court of Elizabeth,—the wit, the play upon words, the forced attempts to say and do clever things,—without any actual contact with the society which was accessible to him after his fame conferred distinction even upon the highest and most accomplished patron. The more ludicrous characters of the drama were unquestionably within the range of "a schoolboy's observation." In 'The Comedy of Errors' we have two descriptions of internal evidence to show that it was a very early play. First, the great prevalence of that measure which was known to our language as early as the time of Chaucer by the name of "rime dogerel." This peculiarity is found only in three of our author's plays,—in 'Love's Labour 's Lost,' in 'The Taming of the Shrew,' and in 'The Comedy of Errors.' But this measure was a distinguishing characteristic of the early English drama. It prevails very much more in this play than in 'Love's Labour 's Lost;' for prose is here much more sparingly introduced. The doggrel seems to stand half-way between prose and verse, marking the distinction between the language of a work of art and that of ordinary life, in the same way that the recitative does in a musical composition. Secondly, in 'Love's Labour 's Lost,' 'Romeo and Juliet,' 'A Midsummer Night's Dream,' and 'The Comedy of Errors,' alternate rhymes are very frequently introduced. Shakspere obtained the mastery over this species of verse in the 'Venus and Adonis,' "the first heir of his invention," as he himself calls it. He writes it with extraordinary facility—with an ease and power that strikingly contrast with the more laboured elegiac stanzas of modern times. Nothing can be more harmonious, or the harmony more varied, than this measure in Shakspere's hands. Take, for example, the well-known lines in the 'Venus and Adonis,' which, themselves the most perfect music, have been allied to one of the most successful musical compositions of the present day :—

> "Bid me discourse, I will enchant thine ear,
> Or, like a fairy, trip upon the green,
> Or, like a nymph, with long dishevell'd hair,
> Dance on the sands, and yet no footing seen."

There was clearly a time in Shakspere's poetical life when he delighted in this species of versification; and in many of the instances in which he has employed it in the dramas we have mentioned, the passages have somewhat of a fragmentary appearance, as if they were not originally cast in a dramatic mould, but were amongst those scattered thoughts of the young poet which had shaped themselves into verse, without a purpose beyond that of embodying his feeling of the beautiful and the harmonious. When the time arrived that he had fully dedicated himself to the great work of his life, he rarely ventured upon cultivating these offshoots of his early versification. The doggrel was entirely rejected—the alternate rhymes no longer tempted him by their music to introduce a measure which is scarcely akin with the dramatic spirit—the couplet was adopted more and more sparingly—and he finally adheres to the blank verse which he may almost be said to have created,—in his hands certainly the grandest as well as the sweetest form in which the highest thoughts were ever unfolded to listening humanity.

It is very difficult to assign a date to 'The Taming of the Shrew;' for it is to all appearance founded on a play entirely different in its versification, its style of imagery, and its characters, but essentially the same in the conduct of its incidents. We have formerly expressed a belief that the older play was Greene's. It appears very difficult to understand how Shakspere could have undertaken the task of re-writing the play of a contemporary author without adopting a line of his original. The mode in which the two men deal with the same materials is certainly a most remarkable exhibition, not only of the different degrees of their power, but of their different views of their art. The only satisfactory solution of this problem would be the discovery of some still older play which they had each used as common stock.

We have only one drama to add to this cycle, and that we believe was 'Romeo and Juliet' in its original form. The first edition of that tragedy, printed in 1597, differs very materially from the second, of 1599. The dates which some of the earliest copies of Shakspere's plays bear furnish little evidence of the dates of their composition; for they were in several instances piracies from manuscripts that had been probably superseded in the theatre. We have no hesitation in believing, although it would be exceedingly difficult to communicate the grounds of our belief fully to our readers, that the alterations made by Shakspere upon his first copy of 'Romeo and Juliet,' as printed in 1597 (which alterations are shown in his second copy as printed in 1599), exhibit differences as to the quality of his mind—differences in judgment—differences in the cast of thought—differences in poetical power—which cannot be accounted for by the growth of his mind during two years only. If the first 'Romeo and Juliet' were produced in 1591, and the second in 1599, we have an interval of eight years, in which some of his most finished works had been given to the world. During this period his richness, as well as his sweetness, had been developed; and it is this development which is so remarkable in the superadded passages in 'Romeo and Juliet.'

The 'Midsummer Night's Dream' may be taken, we apprehend, as a connecting link between the dramas which belong to the first cycle and those which may be assigned to the remaining years of the sixteenth century.

We have little difficulty in determining the plays which belong to Shakspere's *middle* period. The list of Meres, and the dates of the original editions of those plays, are our best guides. The exact years in which they first appeared can only be determined in one or two cases; and it is of little consequence if they could be determined. The earliest of the historical plays of this cycle were those which completed the great story of the wars of the Roses. 'Richard III.' naturally terminated the eventful history of the house of York; 'Richard II.' commenced the more magnificent exhibition of the fortunes of the house of Lancaster. Both these plays were printed in 1597. The two great historical plays which succeeded them were, no doubt, produced before 1599. 'Henry V.' undoubtedly belongs to that year; and this great song of national triumph grew out of the earlier history of the "mad-cap Prince of Wales." The three latter histories are most remarkable for the exhibition of the greatest comic power that the world has ever seen. When the genius of Shakspere produced Falstaff, its most distinguishing characteristics, his wit and humour, had attained their extremest perfection. There is much of the same high comedy in 'King John.' This was the period which also produced those comic dramas which are most distinguished for their brilliancy of dialogue—the "fine filed phrase" which Meres describes,—'The Merry Wives of Windsor,' 'Much Ado about Nothing,' and 'Twelfth Night.' The 'Merchant of Venice,' and 'All's Well that Ends Well,' belong more to the romantic class. The 'Twelfth Night' was originally thought to have been one of Shakspere's latest plays; but it is now proved, beyond a doubt, that it was acted in the Middle Temple Hall in the Christmas of 1601.

The close of the fifteenth century brings us to Shakspere's thirty-fifth year. He had then been about fifteen years in London. We are not willing to believe that his whole time was passed in the capital. It is not necessary to believe it; for the evidence, such as it is, partly gossip and partly documentary, makes for the contrary opinion. Aubrey tells us "the humour of the constable in 'A Midsummer Night's Dream' he happened to take at Grendon in Bucks, which is the road from London to Stratford, and there was living that constable about 1642, when I first came to Oxon." The honest antiquary makes a slight mistake here. There is no constable in 'A Midsummer Night's Dream;' but he probably refers to the ever-famous Dogberry or Verges. In the same paper Aubrey says, "he was wont to go to his native country once a-year." In another paper, which contains his notice of Sir William Davenant, he is more minute in this matter of Shakspere's journeys; and indulges in sly insinuations which scarcely beseem a grave antiquary :—

"Sir William Davenant was born about the end of February baptized 3rd of March, A.D. 1605-6, in .... Street, in the city of Oxford, at the Crown Tavern. His father, John Davenant, was a vintner there, a very grave and discreet citizen; his mother was a very beautiful woman, and of very good wit, and of conversation extremely agreeable. They had three sons, viz., 1, Robert; 2, William; 3, Nicholas (an attorney)—Robert was a Fellow of St. John's College in Oxon, then preferred to the parsonage of West Kington by Bishop Davenant, whose chaplain he was:—and two handsome daughters; one married to Gabriel Bridges, B.D. of C.C. College, beneficed in the Vale of White Horse; another to Dr. Sherburne, minister of Pembridge, in Hereford, and a canon of that church. Mr. William Shakespeare was wont to go into Warwickshire once a-year, and did commonly in his journey lie at this house in Oxon, where he was exceedingly respected. Now Sir William would sometimes, when he was pleasant over a glass of wine with his most intimate friends, *e. g.*, Sam. Butler (author of Hudibras), &c., say, that it seemed to him that he writ with the very spirit that Shakespeare writ, and seemed contented enough to be thought his son."

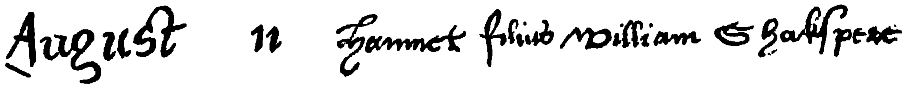
We may as well give the remainder of Aubrey's anecdotes in connexion with Shakspeare, in addition to what we have already given with reference to his father being a butcher, &c. After telling us that "he was a handsome well-shaped man, very good company, and of a very ready, pleasant, and smooth wit," he tells the story of the Grendon constable, and thus proceeds:—

"Ben Jonson and he did gather humours of men daily wherever they came. One time, as he was at the tavern at Stratford-upon-Avon, one Coombes, an old rich usurer, was to be buried; he makes there this extemporary epitaph:—

'Ten in the hundred the Devil allows,
But Coombes will have twelve, he swears and vows;
If any one asks who lies in this tomb,
Hoh! quoth the Devil, 't is my John o Coombe.'

He was wont to go to his native country once a-year. I think I have been told that he left two or three hundred pounds per annum there and thereabout to a sister. I have heard Sir Wm. Davenant and Mr. Thomas Shadwell (who is counted the best comedian we have now) say that he had a most prodigious wit, and did admire his natural parts beyond all other dramatic writers. He was wont to say that he never blotted out a line in his life; said Ben Jonson, 'I wish he had blotted out a thousand.' His comedies will remain wit as long as the English tongue is understood, for that he handles *mores hominum*; now our present writers reflect so much upon particular persons and coxcombities, that twenty years hence they will not be understood."

But we have more trustworthy evidence than that of John Aubrey for believing that Shakspere, however indispensable a protracted residence in London might be to his interests and those of his family, never cast aside the link which bound him to his native town. In 1596 his only son died, and in Stratford he was buried. The parochial register gives us the melancholy record of this loss:—



August 11 Hamnet filius William Shakspere

But this event, afflicting as it must have been, did not render the great poet's native town less dear to him. There his father and mother, there his wife and daughters, there his sister still lived. In 1597 he purchased the principal house in Stratford. It was built by Sir Hugh Clopton, in the reign of Henry VII., and was devised by him under the name of *the great house*. Dugdale describes it as "a fair house built of brick and timber." It appears to have been sold out of the Clopton family before it was purchased by Shakspere. In the poet's will it is described as "all that capital messuage or tenement, with the appurtenances, in Stratford aforesaid, called the New Place." The London residence of Shakspere at this period is stated to have been in Southwark, near the Bear Garden. It is now incontestably proved that in the year previous to 1596 Shakspere held a much more important rank as a sharer in the Blackfriars Theatre than in 1589; and that the Globe Theatre also belonged to the body of proprietors of which he was one. A petition to the privy council, presented in 1596, was found in the State Paper Office a few years ago, in which the names of the petitioners stand as follows:—

"The humble petition of Thomas Pope, Richard Burbage, John Hemmings, Augustine Phillips, William Shakespeare, William Kempe, William Sly, Nicholas Tooley, and others, servants to the Right Honourable the Lord Chamberlain to her Majesty."

There is a tradition that the valuable estate of New Place was purchased by Shakspere through the munificent assistance of Lord Southampton. Rowe tells the story as follows:—

"What grace soever the Queen conferred upon him, it was not to her only he owed the fortune which the reputation of his wit made. He had the honour to meet with many great and uncommon marks of favour and friendship from the Earl of Southampton, famous in the histories of that time for his friendship to the unfortunate Earl of Essex. It was to that noble Lord he dedicated his poem of 'Venus and Adonis.' There is one instance so singular in the magnificence of this noble patron of Shakspeare's, that, if I had not been assured that the story was handed down by Sir William D'Avenant, who was probably very well acquainted with his affairs, I should not have ventured to have inserted; that my Lord Southampton at one time gave him a thousand pounds, to enable him to go through with a purchase which he heard he had a mind to."

When Shakspere dedicated the 'Venus and Adonis' to Lord Southampton he was twenty-nine years of age; the young Earl, Henry Wriothesley, who had succeeded to the title when very young, was only twenty years old. Southampton devoted himself to the cultivation of letters, and the encouragement of poetry and learning, with most honourable ardour, at a very early period of his life. Camden speaks of him as cultivating literature in the first flower of his age. Chapman, in one of the poems accompanying his translation of the 'Iliad,' calls him "learn'd Earl." Florio, in 1598, says, "As to me and many more, the glorious and gracious sunshine of your honour hath infused light and life." Further, the honest old Italian speaks out his obligations very plainly in addressing the Earl as one "in whose *pay* and patronage I have lived some years." According to the feelings of those days, it would have been no discredit to Shakspere to have received a magnificent present from Southampton. The word "patronage" then implied, without any dishonour to the patronized, a payment in money. The sum stated by Rowe, on the authority of Davenant, to have been presented by Southampton to Shakspere, appears certainly a most extraordinary exaggeration of the amount of some more reasonable present. It is scarcely necessary that we should assess what that present was. Malone thinks it was a hundred pounds. The tradition came to Rowe from a very questionable authority—from one who pretended to an intimate knowledge of Shakspere's affairs, which he never could have possessed. Davenant was not ten years of age when Shakspere died. It is not necessary, to account for Shakspere's property in the theatres, or even for his purchase of New Place at Stratford, that we should imagine that some extraordinary prodigality of bounty had been lavished on him. He obtained his property in the theatre by his honest labours, steadily exerted, though with unequalled facility, from his earliest manhood. The profits which he received not only enabled him to maintain his family, but to create an estate; and his was not a solitary case. Edward Alleyn, who was a contemporary of Shakspere, a player and a theatrical proprietor, realized a fortune; and he founded Dulwich College. The intercourse between Shakspere and Lord Southampton appears to have been one of mutual respect and cordial friendship; not a friendship which could imply large obligations from high intellect to high station. We have already given the dedication of 'Venus and Adonis;' it is manly and respectful—not implying any very close acquaintance, asking no favours, expressing gratitude for none already conferred. The dedication to the 'Rape of Lucrece,' published in the following year, speaks in some respects a different language:—

"*To the Right Honourable Henry Wriothesly, Earl of Southampton and Baron of Titchfield.*

"The love I dedicate to your Lordship is without end; whereof this pamphlet, without beginning, is but a superfluous moiety. The warrant I have of your honourable disposition, not the worth of my untutored lines, makes it assured of acceptance. What I have done is yours, what I have to do is yours; being part in all I have, devoted yours. Were my worth greater, my duty would show greater; meantime, as it is, it is bound to your Lordship, to whom I wish long life, still lengthened with all happiness. Your Lordship's in all duty,

"WILLIAM SHAKESPEARE."

There is here the expression of strong friendship, according to the term of that day, "love." *Friends* were then called *lovers.* But there is, also, profound respect. Shakspere, we believe, would not have written this dedication for money's worth. Drake has pointed out the resemblance between this dedication and the 26th Sonnet, and the similarity is certainly remarkable:—

> "Lord of my love, to whom in vassalage
> Thy merit hath my duty strongly knit,
> To thee I send this written embassage,
> To witness duty, not to show my wit.
> Duty so great, which wit so poor as mine
> May make seem bare, in wanting words to show it;
> But that I hope some good conceit of thine
> In thy soul's thought, all naked, will bestow it:
> Till whatsoever star that guides by moving
> Points on me graciously with fair aspéct,
> And puts apparel on my tatter'd loving,
> To show me worthy of thy sweet respect:
> Then may I dare to boast how I do love thee,
> Till then, not show my head where thou may'st prove me."

It appears to us that this Sonnet is literally a *dedication*, which accompanied some performance of the poet thus privately inscribed to an illustrious friend. It is, however, shrouded in the mystery which hangs over those very remarkable productions, first published in 1609, under the following title:—'Shake-speare's Sonnets. Never before imprinted.' It has been held, especially by the German critics, that these Sonnets have not been sufficiently regarded as a store of materials for the biography of Shakspere. This objection has been removed within the last few years, by the publication of two works whose *titles* would appear to leave us nothing to desire. The first is, 'On the Sonnets of Shakespeare, identifying the Person to whom they are addressed; and elucidating several Points in the Poet's History. By James Boaden, Esq.' (1837.) The second, published in 1838, is entitled 'Shakespeare's Autobiographical Poems, being his Sonnets clearly developed; with his Character, drawn chiefly from his Works. By Charles Armitage Brown.' Mr. Brown affixes this motto to his work: "With this key, simple as it may appear, every difficulty is unlocked, and we have nothing but pure uninterrupted biography." We should hail, in common with all the world, any contribution to the "pure uninterrupted biography" of any portion of Shakspere's career; and especially of autobiography. But we cannot think that we have yet found this treasure. There are, no doubt, in Shakspere's Sonnets repeated expressions of thoughts and feelings strictly personal; but it is impossible, we think, on the other hand, to receive these poems as a *continuous* expression of these personal thoughts and feelings, which alone could entitle them to the name of "autobiographical poems." The subject is one in which we honestly confess the extreme difficulty of forming any decided opinion; and it is possible that our opinion, as it is now formed, may be qualified by our own future reflection, or by the suggestions of others. But, as it is manifestly impossible to attempt a 'Life of Shakspere,' however imperfect, without a somewhat full reference to these Sonnets, we are bound to offer our readers the best opinion which we have derived from an attentive study of them.

We have already quoted a passage from Francis Meres which we must here repeat: "As the soul of Euphorbus was thought to live in Pythagoras, so the sweet witty soul of Ovid lives in mellifluous and honey-tongued Shakespeare; witness his 'Venus and Adonis,' his 'Lucrece,' his sugared sonnets among his private friends, &c." There can be no doubt that the "sugared sonnets" were circulated in manuscript amongst Shakspere's "private friends." The 'Venus and Adonis,' and the 'Lucrece,' were printed; but Meres appeals equally to these published and unpublished works to show that "the sweet witty soul of Ovid lives in mellifluous and honey-tongued Shakspere." This praise was printed in 1598; and it must be assumed that the "sugared sonnets" had obtained a reputation in the literary and courtly circles of that time. It was then the fashion to circulate poems in manuscript; and "the request of friends," which Pope, a century afterwards, so justly ridiculed, was then a real motive for seeking an extended publicity through the press. But Shakspere, we are perfectly certain, never consented to the publication of these "sugared sonnets." It has been doubted whether the Sonnets published in 1609 were those mentioned by Meres. But we would remark that the notoriety which Meres had given to the "sugared sonnets" incited a publisher, in 1599, to produce something which should gratify the general curiosity. In that year appeared a collection of poems bearing the name of Shakspere, and published by W. Jaggard, entitled 'The Passionate Pilgrim.' This little collection contains two Sonnets which are also given in the larger collection of 1609. They are those numbered cxxxviii and cxliv in that collection. In the modern reprints of 'The Passionate Pilgrim' it is usual to omit these two Sonnets without explanation, because they have been previously given in the larger collection of Sonnets. But it is important to know that, previous to the publication of 'The Passionate Pilgrim,' Shakspere, if the Sonnets are to be taken as autobiographical, had thus described himself:—

> "When my love swears that she is made of truth
> I do believe her, though I know she lies;
> That she might think me some untutor'd youth,
> Unlearned in the world's false subtilties.
> Thus vainly thinking that she thinks me young,
> Although she knows my days are past the best,
> Simply I credit her false-speaking tongue;
> On both sides thus is simple truth suppress'd.
> But wherefore says she not she is unjust?
> And wherefore say not I that I am old?
> O, love's best habit is in seeming trust,
> And age in love loves not to have years told:
> Therefore I lie with her, and she with me,
> And in our faults by lies we flatter'd be."

Thus, before 1599, we know not how much earlier, the best of Shakspere's years were past; he was *old*, according to his own account. We know, indeed, that men of middle life,—between forty and fifty, were in those days termed old; a fact which indicates partly the increased average duration of life at the present time, and partly the greater reverence in which the head of a family was formerly held by his children and dependants. But in the year in which 'The Passionate Pilgrim' was published Shakspere was only thirty-five. The term 'old' was not therefore strictly applicable to him. But the 73rd Sonnet of the larger collection expresses the sentiment not more strongly though far more beautifully:—

> "That time of year thou mayst in me behold
> When yellow leaves, or none, or few, do hang
> Upon those boughs which shake against the cold,
> Bare, ruin'd choirs, where late the sweet birds sang.
> In me thou seest the twilight of such day
> As after sunset fadeth in the west,
> Which by and by black night doth take away,
> Death's second self, that seals up all in rest.
> In me thou seest the glowing of such fire
> That on the ashes of his youth doth lie,
> As the death-bed whereon it must expire,
> Consum'd with that which it was nourish'd by.
> This thou perceiv'st, which makes thy love more strong
> To love that well which thou must leave ere long."

We have evidence, then, that if the Sonnets, *collectively*, are to be taken as "autobiographical," they belong to the middle period of Shakspere's life, however they may refer to the autumn of his years, the twilight of his day, the ashes of his youth. They belong to the period when the great poet had yet to write fifteen of his most wonderful plays,—some of them running over with all the luxuriance of a youthful imagination. But 'The Passionate Pilgrim' contains a Sonnet, not in the larger collection,—not forming, it would be said, any part of that continuous poem. It contains a Sonnet which on every account we delight to reprint, for it includes a tribute from Shakspere to Spenser:—

> " If music and sweet poetry agree,
> As they must needs, the sister and the brother,
> Then must the love be great 'twixt thee and me,
> Because thou lov'st the one, and I the other.
> *Dowland* to thee is dear, whose heavenly touch
> Upon the lute doth ravish human sense;
> *Spenser* to me, whose deep conceit is such,
> As, passing all conceit, needs no defence.
> Thou lov'st to hear the sweet melodious sound
> That Phœbus' lute, the queen of music, makes;
> And I in deep delight am chiefly drown'd,
> Whenas himself to singing he betakes.
> One god is god of both, as poets feign;
> One knight loves both, and both in thee remain.

Now, poor Spenser died heart-broken in January, 1599. The first three books of the 'Fairy Queen,' to which the words "deep conceit" are supposed to allude, were printed in 1590, the three other books in 1596. Spenser, pressed down by public duties and misfortunes, published nothing after. These facts show that we have a range of several years in determining the dates of Shakspere's Sonnets. But the two Sonnets of 'The Passionate Pilgrim,' which were also published in the larger collection, lead us to infer something more. If they were *taken out* from that larger collection no one could say that its continuity would be deranged. There are other Sonnets, properly so called, in 'The Passionate Pilgrim,' which, if they were to be *added* to the larger collection, there would be no difficulty in inserting them, so as to be as continuous as the two which are common to both works. The notion of continuity was not entertained with regard to 'The Passionate Pilgrim,' probably because it contains only some twenty poems; but some principle of order is maintained even in these, in the *modern* edition of the collection. There can be no doubt that William Jaggard, the original publisher, got together as many as he could of the "sugared sonnets" circulating amongst Shakspere's "private friends;" and he picked up something from other sources. He took two poems out of 'Love's Labour's Lost,' which was printed only the year before. The whole publication was doubtlessly piratical; and the boldness of the pirate went somewhat further at a future time. In 1612 he published a third edition of this 'Pilgrim,' in which he inserted, as Shakspere's, translations of two of Ovid's Epistles, which were really the work of Heywood. Heywood claimed his own; and says of Shakspere that *he* was "much offended with M. Jaggard, that, altogether unknown to him, presumed to make so bold with his name." We have no doubt that, in 1599, Shakspere was not altogether pleased with M. Jaggard in producing the medley of 'The Passionate Pilgrim.' It contained this Sonnet:—

> " Two loves I have of comfort and despair,
> Which like two spirits do suggest me still;
> The better angel is a man right fair,
> The worser spirit a woman, colour'd ill.
> To win me soon to hell, my female evil
> Tempteth my better angel from my side,
> And would corrupt my saint to be a devil,
> Wooing his purity with her foul pride.
> And whether that my angel be turn'd fiend,
> Suspect I may, but not directly tell;
> But being both from me, both to each friend,
> I guess one angel in another's hell
> Yet this shall I ne'er know, but live in doubt,
> Till my bad angel fire my good one out"

If this Sonnet, which forms the 144th of the larger collection, had been taken, in 1599, to imply that Shakspere had a bad angel, a female evil, it would not have increased his domestic comfort or his respectability at Stratford. There were enough there to buy books with his name, and to exhibit them to his family. But the injury would be neutralised by another Sonnet in the same collection:—

> " Did not the heavenly rhetoric of thine eye,
> 'Gainst whom the world could not hold argument,
> Persuade my heart to this false perjury?
> Vows for thee broke deserve not punishment.
> A woman I forswore; but I will prove,
> Thou being a goddess, I forswore not thee:
> My vow was earthly, thou a heavenly love;
> Thy grace being gain'd cures all disgrace in me.
> My vow was breath, and breath a vapour is;
> Then thou fair sun, that on this earth doth shine,
> Exhale this vapour vow; in thee it is:
> If broken, then it is no fault of mine.
> If by me broke, what fool is not so wise
> To break an oath to win a paradise?"

This is a Sonnet from 'Love's Labour's Lost;' and so the honest folks of Stratford would naturally conclude that both the sonnets were DRAMATIC: and we cannot avoid thinking that such a conclusion would not have been far from the truth.

'The Passionate Pilgrim' contains four Sonnets connected with the story of 'Venus and Adonis.' They are rather repetitions of an idea than a continuance of a story. Each Sonnet contains an idea complete in itself. They are not printed continuously in the original, as they are now printed. Mr. Hallam has the following just criticism on Shakspeare's Sonnets, with reference to the larger collection:—

"No one ever entered more fully than Shakspeare into the character of this species of poetry, which admits of no expletive imagery, no merely ornamental line. But, though each Sonnet has generally its proper unity, the sense—I do not mean the grammatical construction—will sometimes be found to spread from one to another, independently of that repetition of the leading idea, like variations of an air, which a series of them frequently exhibits, and on account of which they have latterly been reckoned by some rather an integral poem than a collection of Sonnets. But this is not uncommon among the Italians, and belongs, in fact, to those of Petrarch himself."

Let us now examine the Sonnets, the "autobiographical poems," as Mr. Brown calls them, as "repetitions of the leading idea, like variations of an air." Nothing can be more elegant or more true than this illustration. The first seventeen Sonnets contain a "leading idea" under every form of "variation." They contain an exhortation to a friend, a male friend, to marry. Who this friend was has been the subject of infinite discussion. Chalmers maintains that it was Queen Elizabeth, and that there was no impropriety in Shakspere addressing the queen by the masculine pronoun, because a queen is a prince; as we still say in the Liturgy "our queen and *governor*." The reasoning of Chalmers on this subject, which may be found in his 'Supplementary Apology,' is one of the most amusing pieces of learned and ingenious nonsense that ever met our view. We believe that we must very summarily dismiss Queen Elizabeth. But Chalmers boldly threw over the idea that the dedication of the bookseller to the edition of 1609 implied the person to whom the Sonnets were addressed. That dedication was as follows:—

"TO THE
ONLY BEGETTER OF THESE ENSUING SONNETS,
MR. W. H.,
ALL HAPPINESS AND THAT ETERNITY PROMISED BY OUR EVER-LIVING POET,
WISHETH THE WELL-WISHING ADVENTURER IN SETTING FORTH,
T. T."

"T. T." is Thomas Thorp, the publisher. The earlier critics made "W. H." an humble person. He was either William Harte, the poet's nephew, or William Hews, some unknown individual, but Drake said, and said truly, that the person addressed was one of rank; and he maintained that it was Lord Southampton. "W. H," he said, ought to have been H. W.—Henry Wriothesley. But Mr. Boaden and Mr. Brown have recently affirmed that "W. H." is William Herbert, Earl of Pembroke, who, in his youth and his rank, exactly corresponded with the person addressed by the poet. The words "begetter of these Sonnets" in the dedication must mean, it is maintained, the person who was the immediate cause of their being written—to whom they were addressed. But *he* was "the *only* begetter of these Sonnets." The latter portion of the Sonnets are unquestionably addressed to a female; which at once disposes of the assertion that he was the *only* begetter, assuming the "begetter" is used in the sense of *inspirer*. Chalmers disposes of this meaning of the word very cleverly: "W. H. was the bringer forth of the sonnets. *Beget* is derived by Skinner from the Anglo-Saxon *begettan*, obtinere. Johnson adopts this derivation and sense: so that *begetter*, in the quaint language of Thorp the bookseller, Pistol the *ancient*, and such affected persons, signified the *obtainer:* as to *get* and *getter*, in the present day, mean *obtain* and *obtainer*, or to procure and the procurer." There can be no doubt of the correctness of this definition. But then, on the other hand, it is held that, when the bookseller wishes Mr. W. H. "that eternity promised by our ever-living poet," he means promised *him*. This inference we must think is somewhat strained. But let us return to the "leading idea" which has run through the first seventeen Sonnets, or stanzas. It glides afterwards into another theme,—the "eternity promised" by the ever-living poet. In the 18th Sonnet we have this declaration:—

> "So long as men can breathe, or eyes can see,
> So long lives this, and this gives life to thee."

The address seems to hold to the same person till the end, of the 25th stanza, perhaps through the 26th. *That* we have already quoted, to point out its resemblance to the dedication to Lord Southampton. But the 27th Sonnet, or stanza, opens entirely in a different spirit. We have here no exaggerated praise of his friend, no "rapturous devotedness, no idolatry of admiring love:" we use Mr. Hallam's words. But, more than all, the poet employs no turbid praise in speaking of his own power. His lines are not *now* described as "*eternal;*" it is no longer,

> "My love shall in my verse *ever live young*."

There is an unreality about all this, a violation of all our previous conceptions of Shakspere's character, which compel us to hesitate before we accept this first part of the poem as "autobiographical." Mr. Brown analyses the first twenty-six Sonnets, calling them "the first poem,—to his friend persuading him to marry." The "second poem" he considers to extend from Sonnet, or stanza, xxvii. to lv.—"to his friend who had robbed the poet of his mistress—forgiving him." But with the change of subject has arrived a most extraordinary change of sentiment. The Sonnets xxvii. to xxxii. are not only specimens of some of the most exquisite poetry in our language, but they express sentiments far more consonant with the habitual tone of Shakspere's mind than the exaggerated devotion and the boastful promises of what has gone before. Look at these:—

> When to the sessions of sweet silent thought
> I summon up remembrance of things past,
> I sigh the lack of many a thing I sought,
> And with old woes new wail my dear times' waste;
> Then can I drown an eye, unus'd to flow,
> For precious friends hid in death's dateless night,
> And weep afresh love's long-since cancell'd woe,
> And moan the expense of many a vanish'd sight.
> Then can I grieve at grievances foregone,
> And heavily from woe to woe tell o'er
> The sad account of fore-bemoaned moan,
> Which I new pay as if not paid before.
>   But if the while I think on thee, dear friend,
>   All losses are restor'd, and sorrows end.

> Thy bosom is endeared with all hearts,
> Which I by lacking have supposed dead;
> And there reigns love and all love's loving parts,
> And all those friends which I thought buried.
> How many a holy and obsequious tear
> Hath dear religious love stolen from mine eye,
> As interest of the dead, which now appear
> But things remov'd, that hidden in thee lie!
> Thou art the grave where buried love doth live,
> Hung with the trophies of my lovers gone,
> Who all their parts of me to thee did give;
> That due of many now is thine alone;
>   Their images I lov'd I view in thee,
>   And thou (all they) hast all the all of me.

> If thou survive my well-contented day,
> When that churl Death my bones with dust shall cover,
> And shalt by fortune once more re-survey
> These poor rude lines of thy deceased lover,
> Compare them with the bettering of the time;
> And though they be outstripp'd by every pen,
> Reserve them for my love, not for their rhyme,
> Exceeded by the height of happier men.
> O then vouchsafe me but this loving thought!
> *Had my friend's muse grown with this growing age,*
> *A dearer birth than this his love had brought,*
> *To march in ranks of better equipage:*
>   *But since he died, and poets better prove,*
>   *Theirs for their style I'll read, his for his love.*"

These indeed look like autobiography; and we think that there are many circumstances connected with the mode in which the Sonnets were published, as well as in their internal evidence, to warrant us in receiving *some* as essentially *dramatic*,—that is, written in an assumed character; and *some* as strictly *personal*,—expressing the thoughts and feelings of the man William Shakspere.

The reader will have noticed the exquisite sentiment of the last lines we have just quoted,—the proud humility, if we may so express ourselves, of the great poet comparing himself with others:—

> "Had my friend's muse grown with his growing age."

We should scarcely imagine, if the poem were continuous, as Mr. Brown believes, that the last stanza of this second portion of it in his classification would conclude with these lines:—

> "Not marble, not the gilded monuments
> Of princes, shall outlive *this powerful rhyme*."

They contrast remarkably with the tone of the 32d Sonnet,—

> "These *poor rude lines* of thy deceased lover."

Meres has a passage not already quoted: "As Ovid saith of his works—

> "Jamque opus exegi quod nec Jovis ira, nec ignis,
> Nec poterit ferrum, nec edax abolere vetustas;"

and as Horace saith of his,

> 'Exegi monumentum ære perennius,' &c.;

so say *I* severally of Sir Philip Sidney's, Spenser's, Daniel's, Drayton's, *Shakespeare's* and Warner's works." What Ovid and Horace said is imitated in the 55th Sonnet. But we greatly doubt if what Meres would have said of Shakspere *he* would have said of himself, except in some assumed character, to which we have not the key. Ben Jonson, to whom a boastful spirit has with some justice been objected, never said anything so strong of his own writings; and he wrote with too much reliance, in this and other particulars, upon classical examples. The 33rd Sonnet to the 39th complain of some wrong, some neglect, which end in separation. The 40th to the 42nd prefer the charge that the poet's friend had robbed him of his mistress. But it is not necessary that we should receive this "leading idea" to understand several series of Sonnets which occur in this part. The 44th and the 45th, for example, might be addressed to any friend, to any relation, who was separated from him by distance:—to his wife, to his mother. Believing as we do that "W. H.," be he who he may, who put these poems in the hands of "T. T.," the publisher, arranged them in the most arbitrary manner (of which there are many proofs), we believe that the principle of continuity, however ingeniously it may be maintained, is altogether fallacious. Where is the difficulty of imagining, with regard to poems of which each separate poem, sonnet, or stanza, is either a "leading idea," or its "variation," that, picked up as we believe they were from many quarters, the supposed connexion must be in many respects fanciful, in some a result of chance, mixing what the poet wrote in his own person, either in moments of elation or depression, with other apparently continuous stanzas that painted an imaginary character, indulging in all the warmth of an exaggerated friendship, in the complaints of an abused confidence, in the pictures of an unhallowed and unhappy love;

sometimes speaking with the real earnestness of true friendship and a modest estimation of his own merits; sometimes employing the language of an extravagant eulogy, and a more extravagant estimation of the powers of the man who was writing that eulogy? Suppose, for example, that in the leisure hours, we will say, of William Herbert Earl of Pembroke, and William Shakspere, the poet should have undertaken to address to the youth an argument why he should marry. There is nothing in the first seventeen Sonnets which might not have been written in the artificial tone of the Italian poetry, in the working out of this scheme. Suppose, again, that in other Sonnets the poet, in the same artificial spirit, complains that the friend has robbed him of his mistress, and that he forgives the falsehood. There is nothing in all this which might not have been written essentially as a work of fiction,—received as a work of fiction,—handed about amongst "private friends" without the slightest apprehension that it would be regarded as an exposition of the private relations of two persons separated in rank as they probably were in their habitual intimacies,—of very different ages,—the one an avowedly profligate boy, the other a matured man. But this supposition does not exclude the idea that the poet had also, at various times, composed, in the same measure, other poems, truly expressing his personal feelings,—with nothing inflated in their tone, perfectly simple and natural, offering praise, expressing love to his actual friends (in the language of the time "lovers"), showing regret in separation, dreading unkindness, hopeful of continued affection. These are also circulated amongst "private friends." Some "W. H." collects them together, ten, or twelve, or fifteen years after they have been written; and a publisher, of course, is found to give to the world any productions of a man so eminent as Shakspere. But who arranged them? Certainly not the poet himself: for those who believe in their continuity must admit that there are portions which it is impossible to regard as continuous. In the same volume with these Sonnets was published a most exquisite narrative poem, 'A Lover's Complaint.' The form of it entirely prevents any attempt to consider it autobiographical. The Sonnets, on the contrary, are personal in their form; but it is not therefore to be assumed that they are *all* personal in their relation to the author. It is impossible to be assumed they could have been printed with the consent of the author as they now stand. If he had meant in all of them to express his actual feelings and position, the very slightest labour on his part—a few words of introduction either in prose or verse—would have taken those parts which he would have naturally desired to appear like fiction, and which to us even now look like fiction, out of the possible range of reality. The same slight labour would, on the other hand, have classed amongst the real, apart from the artificial, those Sonnets which he would have desired to stand apart, and appear to us to stand apart, as the result of real moods of the poet's own mind. It is impossible for us to work out this idea in the space of this paper; but we may add one or two observations. With the 126th Sonnet terminates the constantly recurring address, which we believe to be in an assumed character, to "my lovely boy." The 127th Sonnet, without the slightest preparation, has for its subject "my mistress' eyes." Mr. Brown is here himself at fault. He makes the stanzas from 127 to 152 compose the sixth poem, but he says, "I suspect that some stanzas irrelevant to the subject have been introduced into the body of it." We have already given the 144th stanza, or Sonnet,—

"Two loves I have of comfort and despair,"—

as taken from the 'The Passionate Pilgrim.' The 145th is a playful poem in the octo-syllabic stanza; very like one of the little love-poems of 'Love's Labour 's Lost,' or 'As You Like It.' Immediately after follows this solemn contemplation of the soul's immortality:—

"Poor soul, the centre of my sinful earth,
Fool'd by those rebel powers that thee array,
Why dost thou pine within, and suffer dearth,
Painting thy outward walls so costly gay?
Why so large cost, having so short a lease,
Dost thou upon thy fading mansion spend?
Shall worms, inheritors of this excess,
Eat up thy charge? Is this thy body's end?
Then, soul, live thou upon thy servant's loss,
And let that pine to aggravate thy store;
Buy terms divine in selling hours of dross;
Within be fed, without be rich no more:
So shalt thou feed on death, that feeds on men,
And, death once dead, there's no more dying then."

No one can here imagine continuity. Of the two last Sonnets or stanzas of the collection Mr. Brown himself thus speaks: "The two Sonnets printed at the end, about Cupid and a nymph of Diana, belong to nothing but themselves." We would ask, therefore, can these one hundred and fifty-four Sonnets be received as a continuous poem upon any other principle than that the author had written them continuously? If there are some parts which are acknowledged interpolations, may there not be other parts that are open to the same belief? If there are parts entirely different in their tone from the bulk of these Sonnets, may we not consider that one portion was meant to be artificial and another real,—that the poet sometimes spoke in an assumed character, sometimes in a natural one? This theory we know could not hold if the poet had himself arranged the sequence of these verses; but as it is manifest that two stanzas have been introduced from a poem printed ten years earlier,—that others are acknowledged to be out of order,—and others positively dragged in without the slightest connexion,—may we not carry the separation still further, and, believing that the "begetter"—the *getter-up*—of these Sonnets had levied contributions upon all Shakspere's "private friends,"—assume that he was indifferent to any arrangement which might make each portion of the poem tell its own history? We do not take up, therefore, these poems to "seize a clue which innumerable passages give us, and suppose that they allude to a youth of high rank as well as personal beauty and accomplishment, in whose favour and intimacy, according to the base prejudices of the world, a player and a poet, though he were the author of 'Macbeth,' might be thought honoured;" and we do not feel "the strangeness of Shakspeare's humiliation in addressing him as a being before whose feet he crouched,—whose frown he feared,—whose injuries, and those of the most insulting kind, he felt and bewailed without resenting."[*]

The view which we have taken of the probable admixture of the artificial and the real in the Sonnets, arising from their supposed original fragmentary state, necessarily leads to the belief that some are accurate illustrations of the poet's situation and feelings. It is collected from these Sonnets, for example, that his profession as a player was disagreeable to him; and this complaint, be it observed, might be addressed to any one of his family, or some honoured friend, such as Lord Southampton, as well as to the principal object of so many of those lyrics which contain a "leading idea, with variations:"—

"O, for my sake do you with Fortune chide,
The guilty goddess of my harmful deeds,
That did not better for my life provide
Than public means, which public manners breeds.
Thence comes it that my name receives a brand,
And almost thence my nature is subdued
To what it works in, like the dyer's hand."

But if from his professional occupation his nature was felt by him to be subdued to what it worked in,—if thence his name received a brand,—if vulgar scandal sometimes assailed him,—he had high thoughts to console him, such as were never before imparted to mortal. This was probably written in some period of dejection, when his heart was ill at ease, and he looked upon the world with a slight tinge of indifference, if not of dislike. Every man of high genius has felt something of this. It was reserved for the highest to throw it off, "like dew-drops from the lion's mane." After a very full consideration of Shakspere's dramatic works, we are come to the conclusion that he possessed, above all other men, so complete a mastery over the tendency to colour general representations of life and character with personal views and circumstances, that he invariably went out of himself,—that he saw nothing through his own individual feelings,—and that thus none of his portraits are alike, because none are personifications of his own nature—his own life—his own self-consciousness. Mr. Hallam, whose general views of Shakspere are formed in the spirit of the most enlarged criticism, is of a different opinion:—"There seems to have been a period of Shakspeare's life when his heart was ill at ease and ill content with the world or his own conscience. The memory of hours mis-spent, the pang of affection misplaced or unrequited, the experience of man's worser nature, which intercourse with ill-chosen associates, by chance or circumstances, peculiarly teaches;—these, as they sank down into the depths of his great mind, seem not only to have inspired into it the conception of 'Lear' and 'Timon,' but that of one primary character, the censurer of mankind. This type is first seen in the philosophic melancholy of Jaques, gazing with an undiminished serenity, and with a gaiety of fancy, though not of manners, on the follies of the world. It assumes a graver cast in the exiled Duke of the same play." Mr. Hallam then notices the like type in 'Measure for Measure' and the altered 'Hamlet,' as well as in 'Lear' and 'Timon;' and adds, "In the later plays of Shakspeare, especially in 'Macbeth' and the 'Tempest,' much of moral speculation will be found, but he has never returned to this type of character in the personages."[*] Without entering into a general examination of Mr. Hallam's theory, which evidently includes a very wide range of discussion, we must venture to think that the type of character *first* seen in Jaques, and presenting a graver cast in the exiled Duke, is so modified by the whole conduct of the action of this comedy, by its opposite characterisation, and by its prevailing tone of reflection, that it offers not the slightest evidence of having been produced at a period of the poet's life "when his heart was ill at ease and ill content with the world or his own conscience." 'As You Like It,' the altered 'Hamlet,' 'Timon,' 'Lear,' 'Measure for Measure,' belong, as we think (of the dates of some there can be no doubt), to the first two or three years of the seventeenth century. To this period the Sonnets have by some been supposed to belong. The tone of many of those "magnificent lyrics" has led, as it appears to us, to the belief that "his heart was ill at ease, and ill content with the world or his own conscience." But it is impossible to collect the same opinion from the examination, apart from the Sonnets, of any drama or group of dramas of this period. 'Twelfth Night' belongs to it, and so does 'Othello.' All that is misanthropical in that noble tragedy is in common with the fiendish wickedness of Iago; 'Twelfth Night' is overflowing with a spirit of enjoyment, and is full of the truest and most beautiful humanities.

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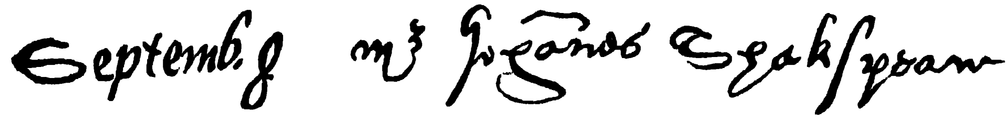
[*] Hallam's 'Literature of Europe,' vol. iii.

Shakspere at this period, the last year or two of the sixteenth century, and the opening years of the seventeenth, was for the most part in London. In 1598 we find his townsman, Richard Quiney, writing him a letter, requesting the loan of thirty pounds. Mr. Alderman Sturley, with reference to some public business of that period, not only says in a letter that "our countryman, Mr. William Shakspere, would procure us money," but speaks "of the friends *he* can make." Such notices are decisive as to the position Shakspere then held in the estimation of the world. In 1601 his father died; and his burial is thus registered at Stratford:—



Septemb. 8 mr Johanes Shakspear

He appears then to have had three brothers living,—Gilbert, Richard, and Edmund. Gilbert, next to himself, resided at Stratford, and probably managed William's affairs there while he was in London; for in 1602, when the prosperous poet bought a considerable quantity of land near Stratford, of William and John Combe (107 acres), the counterpart of the conveyance (which we have seen) contains an acknowledgment of possession being given to Gilbert Shakspere, to the use of William. It is probable that Gilbert died before William; for no mention is made of him in the poet's will. The younger son of the family, Edmund, born in 1580, followed the fortunes of his illustrious brother. It was probably intended that he should succeed him in his proprietorship of the theatres; but the register of the burials of St. Mary Overies, in Southwark, closes his history in 1607: "Edmund Shakspere, player, in the church." Richard Shakspere died in 1613.

In 1603 James I. ascended the throne of England. Lord Southampton, who had so imprudently participated in the conspiracy of Essex, was a favourite of the new sovereign; and one almost of the first acts of the reign was the grant of a patent to the proprietors of the Blackfriars and Globe Theatres. In this patent the name of Shakspere stands the second. The names mentioned being "Lawrence Fletcher, William Shakspeare, Richard Burbage, Augustine Phillips, John Hemmings, Henry Condell, William Sly, Robert Armyn, Richard Cowley."

It would appear that at this period Shakspere was desirous of retiring from the more laborious duties of his profession as an actor. He desired to be appointed, there is little doubt, to the office of Master of the Queen's Revels. Daniel, a brother-poet, was appointed; and in a letter to the Lord Keeper, Sir Thomas Egerton,[*] he thus speaks of one of the competitors for the office:—"It seemeth to my humble judgment that one who is the author of plays now daily presented on the public stages of London, and the possessor of no small gains, and moreover himself an actor in the King's company of comedians, could not with reason pretend to be master of the Queen's Majesty's revels, forasmuch as he would sometimes be asked to approve and allow of his own writings."

But Shakspere continued to hold his property in the theatre. In 1608 the Corporation of London again attempted to interfere with the actors of the Blackfriars; and there being little chance of ejecting them despotically, a negotiation was set on foot for the purchase of their property. A document found by Mr. Collier amongst the Egerton papers at once determines Shakspere's position in regard to his theatrical proprietorship. It is a valuation, containing the following item:—

> "Item. W. Shakespeare asketh for the wardrobe
> and properties of the same playhouse 500*l.*,
> and for his four shares, the same as his fellows
> Burbidge and Fletcher, viz., 933*l.* 6*s.* 8*d.* . 1433 6 8"

With this document was found another—unquestionably the most interesting paper ever published relating to Shakspere: it is a letter from Lord Southampton to Lord Ellesmere, the Lord Chancellor; and it contains the following passage:—

"These bearers are two of the chief of the company; one of them by name Richard Burbidge, who humbly sueth for your Lordship's kind help, for that he is a man famous as our English Roscius, one who fitteth the action to the word and the word to the action most admirably. By the exercise of his quality, industry, and good behaviour, he hath become possessed of the Black Friars playhouse, which hath been employed for plays since it was built by his father, now near fifty years ago. The other is a man no whit less deserving favour, and my especial friend, till of late an actor of good account in the company, now a sharer in the same, and writer of some of our best English plays, which, as your Lordship knoweth, were most singularly liked of Queen Elizabeth, when the company was called upon to perform before her Majesty at court, at Christmas and Shrovetide. His most gracious Majesty King James also, since his coming to the crown, hath extended his royal favour to the company in divers ways and at sundry times. This other hath to name William Shakespeare, and they are both of one county, and indeed almost of one town: both are right famous in their qualities, though it longeth not to your Lordship's gravity and wisdom to resort unto the places where they are wont to delight the public ear. Their trust and suit now is, not to be molested in their way of life whereby they maintain themselves and their wives and families (being both married and of good reputation), as well as the widows and orphans of some of their dead fellows."

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[*] 'Literature of Europe,' vol. iii.

[*] Collier, 'New Facts,' p. 48.

The mode in which Southampton speaks of Shakspere is most noble; it is almost more than could have been expected from a courtier addressing a minister of state. Whatever Southampton might feel towards Shakspere in private, it was something like a breaking down of aristocratic distinctions thus to write of a "poor player:"—"The other is a man no whit less deserving favour, and MY ESPECIAL FRIEND." Who can doubt the estimation in which Shakspere must have been held by all men when his personal character, as well as his surpassing genius, had thus broken down the observance of the distinctions which in those days were most rigidly clung to? We learn from this letter that in 1608 Shakspere had ceased to be an actor; but he was still a sharer in the company.

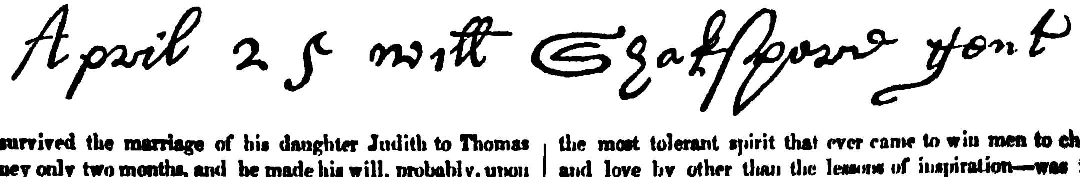
We may now suppose that the great poet, thus honoured and esteemed, had retired to Stratford, retaining a property in the theatre—regularly writing for it. There is an opinion that he ceased to act after 1603. In that year his name is found amongst the performers of one of Ben Jonson's plays. But the years from 1601 to his death, in the April of 1616, were not idly spent. He was a practical farmer, we have little doubt. In 1605 he bought a moiety of the tithes of Stratford, which he would then probably collect in kind. He occupied the best house of the place; he had there his "curious knotted garden" to amuse him; and his orchard had many a pippin of his "own graffing." James I. recommended the cultivation of mulberry-trees in England; and who has not heard of Shakspere's mulberry-tree? Vulgar tradition at this time represents him as writing a bitter epitaph upon his friend and neighbour John Combe, as he had satirized Sir Thomas Lucy. Mr. De Quincey ably vindicates Shakspere from these calumnies. It is by no means certain that "Justice Shallow" was ever intended for the possessor of Charlecote: and the four lines upon Combe (which Aubrey quotes, see p. 25) were, according to Mr. De Quincey, "written and printed before Shakspere was born."* He was doing something better. To the first half of the period between 1604 and his death may be assigned—'Lear,' 'Macbeth,' 'Cymbeline,' 'The Winter's Tale,' and 'The Tempest.' The very recital of the names of these glorious works, associated as they are with that quiet country town, its beautiful Avon, its meadows, and its woodlands, is enough to make Stratford a name dear and venerable in every age. But there are others to be added to the wondrous list; and these probably belong to the latter half of the period:—'Troilus and Cressida,' 'Henry VIII.,' 'Coriolanus,' 'Julius Cæsar,' 'Antony and Cleopatra.' The direction of Shakspere's mind to Roman subjects, in his closing period, and the marvellous accuracy, the real substantial learning, with which he has treated them, would lead us to believe that he had renewed the studies of his boyhood in the last years of his retirement. Alfieri learned Greek after he was fifty. It is our opinion that Shakspere continued to write till he was removed by death; and that the Roman plays were the beginning of a series. Who will finish that series?

In 1607 Susanna, the eldest daughter of Shakspere, married a physician resident at Stratford—a man of high professional eminence—Dr. Hall. In 1608 his grand-daughter Elizabeth was born. To this child he bequeathed a sum of money, and all his plate, "except my broad silver and gilt bowl." Shakspere was a grandfather at 43. In 1608 his mother died—the mother, doubtless, of his ardent love. There is a curious record of Shakspere's later years, which was recently discovered in the library of the Medical Society of London, contained in the "Diary of the Rev. John Ward, Vicar of Stratford-upon-Avon." The Diary extends from 1648 to 1679; and it contains the following very characteristic entry:—

> "I have heard that Mr. Shakspear was a natural wit, without any art at all; he frequented the plays all his younger time, but in his elder days lived at Stratford, and supplied the stage with two plays every year: and for it had an allowance so large, that he spent at the rate of 1000*l.* a-year, as I have heard.
>
> "Shakspeare, Drayton, and Ben Jonson had a merry meeting; and it seems drank too hard, for Shakspeare died of a fever there contracted."

Shakspere's annual expenditure, and the merry meeting, and the hard drinking, are probably exaggerations. They, however, show that our opinion that Shakspere continued to write for the stage after he had ceased to be an actor has some foundation; and that his residence in comfort and affluence at Stratford did not necessarily imply an abandonment of all his former pursuits. 'Henry VIII.,' upon every rational construction of evidence, was produced at the Globe Theatre in 1613, and was then a new play.

We approach the end. Shakspere, according to the register of Stratford, was buried on the 25th of April, 1616:—



April 25 will Shakspere gent

He survived the marriage of his daughter Judith to Thomas Quiney only two months, and he made his will, probably, upon the occasion of that marriage. It is dated the 25th of March, but in the document *February* was first written, and afterwards struck out. By this will, which is long, he gives his real estates to his eldest daughter.

In a short paper published in 'The Pictorial Edition of Shakspere' in the beginning of this year, we endeavoured to vindicate Shakspere from a calumny which, through the long continuance of a misapprehension, has constantly presented itself to the thoughts even of those who were most anxious to believe that the poet of universal benevolence—the gentlest, the most tolerant spirit that ever came to win men to charity and love by other than the lessons of inspiration—was incapable of a deliberate act of cruelty and contempt towards the wife of his bosom.

According to the received interpretation of his will, Shakspere treats his wife with neglect and "bitter sarcasm," for which estranged affections would have been no warranty; and consigns her, with a solemn avowal of contempt and hatred, to a miserable dependence, not even recommended or implied, upon the bounty of their common children. According to the dictum of Malone, who first dragged this offensive bequest into notice sixty years ago, "His wife had not wholly escaped his memory; he had forgot her,—he had recollected her,—but so recollected her as more strongly to mark how little he esteemed her; he had already (as it is vulgarly expressed) *cut her off, not indeed with a shilling, but with an old bed.*"

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* Encyclopædia Britannica.

Steevens, amongst many faults of taste, has the good sense and the good feeling to deny the inferences of Malone in this matter of the "old bed." He considers this bequest "a mark of peculiar tenderness;" and he assumes that she was provided for by settlement. Steevens was a conveyancer by profession. Malone, who was also at the bar, says, "what provision was made for her by settlement does not appear." The writer in 'Lardner's Cyclopædia' doubts the legal view of the matter which Steevens charitably takes:—"Had he already provided for her? If so, he would surely have alluded to the fact; and if he had left her the interest of a specific sum, or the rent of some messuage, there would, we think, have been a stipulation for the reversion of the property to his children after her decease." Boswell, a third legal editor, thus writes upon the same subject:—"*If* we may suppose that some provision had been made for her during his lifetime, the bequest of his second-best bed was probably considered in those days neither as uncommon or reproachful." The "forgetfulness" and the "neglect" by Shakspere of the partner of his fortunes for more than thirty years is good-naturedly imputed by Steevens to "the indisposed and sickly fit." Malone will not have it so:—"The various regulations and provisions of our author's will show that at the time of making it *he had the entire use of his faculties.*" We thoroughly agree with Malone in this particular. Shakspere bequeaths to his second daughter three hundred pounds under certain conditions; to his sister money, wearing apparel, and a life-interest in the house where she lives; to his nephews five pounds each; to his grand-daughter his plate; to the poor ten pounds; and to various friends money, rings, his sword. The chief bequest, that of his *real* property, is as follows:—

"Item—I give, will, bequeath, and devise, unto my daughter, Susanna Hall, for better enabling of her to perform this my will, and towards the performance thereof, all that capital messuage or tenement, with the appurtenances, in Stratford aforesaid, called the New Place, wherein I now dwell, and two messuages or tenements, with the appurtenances, situate, lying, and being in Henley Street, within the borough of Stratford aforesaid; and all my barns, stables, orchards, gardens, lands, tenements, and hereditaments whatsoever, situate, lying, or being, or to be had, received, perceived, or taken, within the towns, hamlets, villages, fields, and grounds of Stratford-upon-Avon, Old Stratford, Bishopton, and Welcombe, or in any of them, in the said county of Warwick; and also that messuage or tenement, with the appurtenances, wherein one John Robinson dwelleth, situate, lying, and being in the Blackfriars in London, near the Wardrobe; and all other my lands, tenements, and hereditaments whatsoever: to have and to hold all and singular the said premises, with their appurtenances, unto the said Susanna Hall, for and during the term of her natural life; and after her decease to the first son of her body lawfully issuing," &c.

Immediately after this clause,—by which all the *real* property is bequeathed to Susanna Hall, for her life, and then entailed upon her heirs male; and in default of such upon his grand-daughter and her heirs male; and in default of such issue upon his daughter Judith and her heirs male,—comes the clause relating to his wife:—

"*Item—I give unto my wife my second-best bed, with the furniture.*"

It was the object of Shakspere by this will to perpetuate a *family estate*. In doing so did he neglect the duty and affection which he owed to his wife? He did not. His estates, with the exception of a copyhold tenement, expressly mentioned in his will, were *freehold*. HIS WIFE WAS ENTITLED TO DOWER. She was provided for amply, *by the clear and undeniable operation of the English law.* Of the houses and gardens which Shakspere inherited from his father, she was assured of the life-interest of a third, should she survive her husband, the instant that old John Shakspere died. Of the capital messuage, called New Place, she was assured of the same life-interest, from the moment of the conveyance, provided it was a direct conveyance to her husband. That it was so conveyed we may infer from the terms of the conveyance of the lands in Old Stratford, and other places, which were purchased by Shakspere in 1602, and were then conveyed "to the onlye proper use and behoofe of the saide William Shakespere, his heires and assignes, for ever." Of a life-interest in a third of these lands also was she assured. The tenement in Blackfriars, purchased in 1614, was conveyed to Shakspere and *three other persons;* and after his death was re-conveyed by those persons to the uses of his will, "for and in performance of the confidence and trust in them reposed by William Shakespeare deceased." In this estate, certainly, the widow of our poet had not dower.

We have thus the satisfaction of pointing out the *absolute certainty* that the wife of Shakspere was provided for by the natural operation of the law of England. She could not have been deprived of this provision except by the legal process of Fine,—the *voluntary* renunciation of her own right. If her husband had alienated his real estates she might still have held her right, even against a purchaser. In the event, which we believe to be improbable, that she and the "gentle Shakspere" lived on terms of mutual unkindness, she would have refused to renounce the right which the law gave her. In the more probable case, that, surrounded with mutual friends and relations, they lived at least amicably, she could not have been asked to resign it. In the most probable case, that they lived affectionately, the legal provision of dower would have been regarded as the natural and proper arrangement—so natural and usual as not to be referred to in a will. By reference to other wills of the same period it may be seen how unusual it was to make any other provision for a wife than by *dower*. Such a provision in those days, when the bulk of property was *real*, was a matter of course. The solution which we have here offered to this long-disputed question, supersedes the necessity of any *conjecture* as to the nature of the provision which those who reverence the memory of Shakspere *must* hold he made for his wife.

The tomb of Shakspere, in the chancel of Stratford Church, was erected before 1623, for it is mentioned in some lines by Leonard Digges. It was the work of Gerard Johnson, a celebrated sculptor.

LIFE OF NAPOLEON BONAPARTE.

By ANDRÉ VIEUSSEUX.

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§ I.—TO THE PEACE OF AMIENS.

NAPOLEON BONAPARTE was born at Ajaccio in the island of Corsica, on the 15th of August, 1769. He was the second son (his brother Joseph being the eldest) of Carlo Bonaparte and of Lætizia Ramolini, both natives of Corsica. In his baptismal register, which is in the parish books, his name is written Bonaparte, but his father generally signed himself Buonaparte, a mode of writing which seems more accordant with Italian orthoepy, although there are other Italian names in which the first component part is written and pronounced *bona*, as for instance, Bonaventura, Bonaccorsi, &c., besides common nouns, similarly compounded, such as bonarietà, bonaccia, &c. This appears in itself a question of little moment, but it has been made the subject of much controversy, to which a sort of national importance has been given, as if the dropping of the *u* had been done for the purpose of Frenchifying the name. (Louis Bonaparte's *Réponse à Sir Walter Scott.*) Bonaparte being a family name, the correctness of the spelling must depend upon custom, and we find that Napoleon after he became general of the army of Italy always signed his name without the *u*, probably, as Bourienne observes, because it was a shorter way of signing, and probably also because it was better adapted to French pronunciation; it corresponded likewise to the common way of speaking of most Italians, who, with the exception of the Tuscans, pronounce in familiar conversation 'bono' instead of 'buono.' Napoleon's name first became known to the world as Bonaparte, and as such it is registered in his proclamations, despatches, and other documents.

Napoleon's family was originally from Tuscany, but had been settled in Corsica for several generations. There is a comedy written by one of his ancestors, Niccolò Buonaparte of San Miniato, citizen of Florence, styled 'La Vedova,' Florence, 1568 and 1592. There is likewise a narrative of the pillage of Rome under Charles V., written by a Jacopo Buonaparte, 'Ragguaglio Storico del Sacco di Roma dell' anno 1527,' Cologne, 1736. Charles, Napoleon's father, was educated at Pisa for the profession of the law. Before the birth of Napoleon he had served under Paoli in the defence of his country against the French, to whom the Genoese had basely sold the island. The entire submission of Corsica to France took place in June, 1769, about two months before Napoleon's birth, who therefore was born a subject of France. In the following September, when Count Marbœuf, the French commissioner, convoked by the king's letters patent the States of Corsica, consisting of three orders, nobility, clergy, and commons, the family of Bonaparte, having shown their titles, was registered among the nobility; and Charles, some years after, repaired to Paris as member of a deputation of his order to Louis XVI. He was soon after appointed assessor to the judicial court of Ajaccio. He was then in straitened circumstances, as he had spent most of his little property in a speculation of some salterns, after having previously lost a suit against the Jesuits about an inheritance which he claimed. Through Count Marbœuf's interest he obtained the admission of his son Napoleon to the military school of Brienne as a king's pensioner. Napoleon left Corsica for Brienne, when he was in his tenth year, in April, 1779. At Brienne, where he passed five years and a half, he made great progress in mathematics, but showed less disposition for literature and the study of languages. Pichegru was for a time his monitor in the class of mathematics. The annual report made to the king by M. de Keralio, inspector-general of the military schools of France, in 1784, has the following remarks on young Napoleon:—'Distinguished in mathematical studies, tolerably versed in history and geography, much behind in his Latin and in belles lettres, and other accomplishments; of regular habits, studious and well behaved, and enjoying excellent health.' (Bourienne's *Memoirs.*) Much has been said of young Napoleon's taciturnity and moroseness while at school. Bourienne, who was his schoolfellow, states the facts very simply. Napoleon was a stranger, for the French considered the Corsicans as such; he spoke his own dialect, until he learnt French at the school; he had no connexions in France; he was comparatively poor, and yet proud-minded, as Corsicans generally are; the other boys, more fortunate or more lively in their disposition, teased him and taunted him, and therefore he kept himself distant and was often alone. But that he was susceptible of social and friendly feelings towards those who showed him sympathy, his intimacy with Bourienne sufficiently proves.

There was nothing extraordinary in young Napoleon's school life; he was a clever, steady, studious lad, and nothing more. The school of Brienne was under the direction of the monks of the order of St. Francis de Paula, called 'Minimi,' and Bourienne speaks rather indifferently of their learning and system of education, though the teacher of mathematics seems to have been a favourable exception. Bourienne also states that Napoleon had made more proficiency in history than the report above mentioned gives him credit for: his favourite authors were Cæsar, Plutarch, and Arrian; the last two he probably read in Latin, or perhaps French translations, for he does not appear to have studied Greek.

Napoleon left Brienne in October, 1784: some say in 1783, but Bourienne is positive as to the date, '17th October, 1784, after Napoleon had been five years and six months at Brienne,' and he accompanied him part of the way to Paris, with four of his companions, to proceed to the military school there, to continue his course of studies, until he had attained the age for entering the army. The Paris school, and the students' manner of living, were on an expensive footing, which shocked young Napoleon, who wrote to Father Berton, his superior at Brienne, a long letter, in which he forcibly exposed the error of such a system of education: luxury and comforts, he said, were a bad preparation for the hardships attendant on the military profession. Bourienne gives a copy of this remarkable letter. In the regulations which he afterwards drew up for his military school at Fontainebleau, Napoleon followed the principles he had thus early manifested. Napoleon's spirit of observation, and his active and inquisitive character, would appear to have attracted the attention of the superiors of the Paris school, who hastened the epoch of his examination, as if anxious to get rid of a troublesome guest. He was likewise remarked for a wild energy and strange amplifications in his style of expressing himself when excited, a peculiarity which distinguished many of his subsequent speeches and proclamations. In September, 1785, he left the school, and received his commission as sub-lieutenant in the regiment of artillery de la Fère, and was soon after promoted to a first lieutenancy in the artillery regiment of Grenoble, stationed at Valence. His father had just died at Montpellier of a scirrhus in the stomach. An old great-uncle, the Archdeacon Lucien of Ajaccio, now acted as father to the family; he was rich, and Charles had left his children poor. Napoleon's elder brother Joseph, after receiving his education at the College of Autun in Burgundy, returned to Corsica, where his mother, sisters, and younger brothers resided, as well as a half-brother of his mother, of the name of Fesch, whose father had been an officer in a Swiss regiment in the Genoese service, formerly stationed in Corsica. Napoleon, while at Valence with his regiment, was allowed 1200 francs yearly from his family, probably from the archdeacon, which, added to his pay, enabled him to live comfortably and to go into company. He appears to have entered cheerfully into the amusements of his brother-officers, but he did not neglect his professional studies. While at Valence he wrote a dissertation in answer to Raynal's question, 'What are the principles and institutions by which mankind can obtain the greatest possible happiness?' He sent his MS. anonymously to the Academy of Lyon, which adjudged to him the prize attached to the best essay on the subject. Many years after, when at the height of his power, he happened to mention the circumstance, and Talleyrand, having sought the forgotten MS. among the archives of the Academy, presented it to him. Napoleon, after reading a few pages, threw it into the fire, and, as no copy was preserved, we do not know what his early ideas might have been about the happiness of mankind. (Las Cases' *Journal*, vol. i.) Having made an excursion from Valence to Mont Cenis, he designed writing a 'sentimental journey,' in imitation of Sterne's work, translations of which were much read in France at the time, but he ultimately resisted the temptation. The first outbreak of the Revolution found him at Valence with his regiment. He took a lively interest in the proceedings of the first National Assembly. The officers of his regiment, like those of the army in general, were divided into royalists and democrats. Several of the royalists emigrated to join the Prince of Condé. Napoleon took the popular side, and his example and his arguments influenced many of his brother-officers in the regiment. In 1792 Napoleon became a captain in the regiment of Grenoble artillery (Las Cases, vol. i.), his promotion being favoured probably by the emigration of so many officers. It is stated by others that he was made a captain in July, 1793, after his return from Corsica. However, he was at Paris in 1792, and there met his old friend Bourienne, with whom he renewed his intimacy. He appears to have been then unemployed, probably unattached, while the army was undergoing a new organization. On the 20th of June, 1792, Napoleon and Bourienne happened to be at a coffee-house in the street St. Honoré, when the mob from the fauxbourgs (a motley crowd armed with pikes, sticks, axes, &c.) was proceeding to the Tuileries. 'Let us follow this *canaille*,' whispered Napoleon to his friend. They went accordingly, and saw the mob break into the palace without any opposition, and the king afterwards appear at one of the windows with the red cap on his head. 'It is all over with that man!' exclaimed Napoleon; and returning with his friend to the coffee-house to dinner, he explained to Bourienne all the consequences he foresaw from the degradation of the monarchy on that fatal day, now and then exclaiming indignantly, 'How could they allow those despicable wretches to enter the palace! a few discharges of grape-shot would have made them all take to their heels; they would be running yet at this moment!' He was extremely grave all the remainder of that day; the sight had made a deep impression upon him. He witnessed also the scenes of the 10th of August, after which he left Paris to return to his family in Corsica. General de Paoli then held the chief authority in that island from the king and the French National Assembly, and Napoleon was appointed by him to the temporary command of a battalion of national guards. Paoli had approved of the constitutional monarchy in France, but not of the excesses of the Jacobins, nor of the attempts to establish a republic. Factions had broken out in Corsica also, which Paoli endeavoured to repress. In January, 1793, a French fleet, under Admiral Truguet, sailed from Toulon, for the purpose of attacking the island of Sardinia. Napoleon, with his battalion, was ordered to make a diversion by taking possession of the small islands which lie on the northern coast of Sardinia, which he effected; but Truguet's fleet having been repulsed in the attack upon Cagliari, Napoleon returned to Corsica with his men. Paoli had now openly renounced all obedience to the French Convention, and called upon his countrymen to shake off its yoke. Napoleon, on the contrary, rallied with the French troops under Lacombe St. Michel and Saliceti, and he was sent with a body of men to attack his native town Ajaccio, which was in possession of Paoli's party. He however did not succeed, and was obliged to return to Bastia. The English fleet soon after appeared on the coast, landed troops, and assisted Paoli, and the French were obliged to quit the island. Napoleon also left it about May, 1793, and his mother and sisters with him. After seeing them safe to Marseille, he went to join the 4th regiment of artillery, which was stationed at Nice with the army intended to act against Italy. So at least his brother Louis says, but from Las Cases' account it would appear that he repaired to Paris to ask for active employment. It was during his short residence at Marseille and in the neighbourhood that he wrote a political pamphlet, called *Le Souper de Beaucaire*, a supposed conversation between men of different parties: a Marseillese, a man of Nismes, a military man, and a manufacturer of Montpellier. Bonaparte speaks his own sentiments as the military man, and recommends union and obedience to the Convention, against which the Marseillese were then in a state of revolt. Napoleon was said to have suppressed this pamphlet, but Bourienne gives a copy of it from a MS. furnished to him by Bonaparte in 1795. His language was then strongly republican, though not of that turgid absurd strain which was then so much in vogue, and of which some specimens, signed Brutus Bonaparte, appeared in the papers of the day. Napoleon, in his memoirs, disavows these, and says that 'perhaps they were the productions of his brother Lucien, who was then a much more violent democrat than himself.'

Bonaparte was at Paris in September, 1793. Being known as a good artillery officer, he was sent to join the besieging army before Toulon, with the rank of lieutenant-colonel of artillery, and with a letter for Cartaux, the republican general, a vain, vulgar, and extremely ignorant man. Napoleon himself has given, in Las Cases' journal, a most amusing account of his first interview with Cartaux, of the wretched state in which he found the artillery, of the total want of common sense in the dispositions that had been made for the attack, of his own remonstrances, and of his difficulty in making Cartaux understand the simplest notions concerning a battery. At last Gasparin, a commissioner from the Convention, arrived at the camp: he had seen a little service, and understood Bonaparte. A council of war was assembled, and although the orders of the Convention were to attack Toulon and carry the town, Napoleon succeeded in persuading them first to attack the outer works which commanded the harbour. Cartaux was soon recalled, and a physician was sent in his place, but he was quickly frightened away by the whistling of the shots. Dugommier, a brave veteran, then came to command the besieging army, and he and Bonaparte agreed perfectly. Napoleon constructed his batteries with great skill, and having opened his fire with effect, the works which commanded the harbour were carried by the French, after a sharp resistance from the English, in which Bonaparte received a bayonet wound. Upon this the evacuation of the place was resolved upon by the allies. A scene of confusion and destruction took place: the English, Spanish, and Neapolitan fleets sailed out of the harbour, carrying along with them about 14,000 of the inhabitants, whose only safety was in flight. The deputies of the Convention, Barras, Freron, Fouché, and the younger Robespierre, entered Toulon, and exercised their vengeance upon the few that remained, 400 of whom were assembled in the square and exterminated by grape-shot. Bonaparte says that neither he nor the regular troops had anything to do with this butchery, which was executed by what was called 'the revolutionary army,' a set of wretches, the real sans culottes of Paris and other towns, who followed the army as volunteers.

Throughout that frightful period which has been styled 'the reign of terror,' it was not, generally speaking, the officers of the regular army, but the civilians, the deputies of the Convention attached to the armies, who directed and presided at the massacres. There is an atrocious letter by Fouché to Collot d'Herbois, testifying his joy at the extermination of the rebels; and another from Saliceti, Barras, and Freron, jointly expressing the same sentiments. (See Napoleon's *Memoirs*, by Gourgaud, vol. i. Appendix.)

In consequence of his services at the taking of Toulon, Bonaparte was recommended by General Dugommier for promotion, and was accordingly raised to the rank of brigadier-general of artillery, in February, 1794, with the chief command of that department of the army in the south. In this capacity he inspected the coasts, ordered the weak points to be fortified, and strengthened the fortifications already existing. He then joined the army under General Dumorbion, which was stationed at the foot of the Maritime Alps, and with which he made the campaign of 1794 against the Piedmontese troops. In that campaign, the French, disregarding the neutrality of Genoa, and advancing by Ventimiglia and San Remo, turned the Piedmontese position at Saorgio, obtained possession of the Col de Tende, and penetrated into the valleys on the Piedmontese side of the Alps. A battle was fought at Cairo, in the valley of the Bormida, 21st September, in which the French had the advantage. But the rainy season coming on, terminated the campaign, in which Bonaparte had taken an important part, together with Massena.

Previous however to the battle of Cairo, Bonaparte had run considerable risk from the factions that divided France. On the 13th of July, 1794, the Deputies of the Convention who were superintending the operations of the army gave him a commission to proceed to Genoa, with secret instructions to examine the state of the fortifications as well as the nature of the country, and also to observe the conduct of the Genoese government towards the English and other belligerent powers. These instructions were dated Loano, and signed Ricord. Ricord and the younger Robespierre were then commissioners. Bonaparte went to Genoa and fulfilled his commission. In the mean time, the revolution of the 9th and 10th Thermidor (27th and 28th July) took place: Robespierre fell, and his party was proscribed. Albitte, Saliceti, and Laporte, were the new commissioners appointed to the army of Italy. On Bonaparte's return from Genoa to head-quarters, he was placed under arrest, his papers were seized, and an order was issued by the commissioners, stating that he had lost their confidence by his suspicious conduct, and especially by his journey to Genoa; he was suspended from his functions of commander of the artillery, and ordered to proceed to Paris under an escort to appear before the committee of public safety. This order was dated Barcelonnette, 6th August, and signed by the three commissioners, and countersigned by Dumorbion, general-in-chief. Bonaparte remained under arrest for a fortnight. He wrote a pithy remonstrance, which he addressed to Albitte and Saliceti, without taking any notice of the third commissioner, Laporte: he complained of being disgraced, and having his character injured without trial: and he appealed to his known patriotism, his services, and his attachment to the principles of the revolution. This remonstrance induced the commissioners to make a more precise investigation of the affair, and the result was a counter order from them, dated Nice, 20th August, stating that citizen Bonaparte had been arrested in consequence of measures of general safety after the death of the traitor Robespierre; but that the commissioners 'having examined his conduct previous to his journey to Genoa, and also the report of that mission, had not found any positive reason to justify the suspicions they might have entertained of his conduct and principles, and that, considering moreover the advantage derived from his military information and knowledge of localities to the service of the republic, they, the commissioners, order him to be restored *provisionally* to liberty, and to remain at head-quarters, until further instructions from the committee of public safety.' Bonaparte seems to have had no further annoyance on the subject. The real grounds of his accusation have never been known, and he himself, at the close of his life, professed his ignorance of them.

After the close of the campaign of 1794, Bonaparte repaired to Marseille. Early in the following year he was at Paris soliciting employment. Aubry, an old officer of artillery, was then president of the military committee. Bonaparte was coldly received by this officer, who made some remarks on his youth, which Bonaparte resented. Aubry, however, appointed him general of a brigade of infantry, in the army of La Vendée, an appointment which Napoleon refused. He remained therefore without active employment, retaining his rank of general of brigade. He now took lodgings in the Rue du Mail, near the Place des Victoires, and led a private life. Bourienne states that he had then some idea of going into the Turkish service, and he gives a copy of a project which Bonaparte laid before the war-office, showing the advantages that would result to France by forming a closer connexion with the Porte. But a crisis arrived in the affairs of France. The Convention had framed a new constitution, establishing a council of elders, a council of juniors, and an executive directory of five members. This is known by the name of the constitution of the year III., and was in fact the third constitution proclaimed since the beginning of the revolution. But the Convention, previously to its own dissolution, passed a resolution to the effect, that at least two-thirds of the members of the two legislative councils should be taken from the members of the actual Convention. This resolution was laid before the primary assemblies of the departments, and every kind of influence, legal and illegal, was used to ensure its approbation. The department of Paris however refused, and the sections or districts of that city being assembled, demanded a strict scrutiny of the returns of the votes from the assemblies of the departments, and protested against the attempt of the Convention to perpetuate its own power. It was said that the sections were urged or encouraged in their resistance by the royalists, who hoped to derive benefit from it: but it is also well known that the Convention, many of whose members were implicated in the bloodshed and atrocities of the reign of terror, was odious to the Parisians. On the other side the members of the Convention for this very reason were afraid of returning to the rank of private citizens. They determined therefore to risk everything in order to carry their object by force. They had at their disposal about 5000 regular troops in or near Paris, with a considerable quantity of artillery, and a body of volunteers from the suburbs. The command of these forces was given to Barras, a leading member of the Convention, who had mainly contributed to the fall of Robespierre. Barras, who had become acquainted with Bonaparte at the siege of Toulon, proposed to intrust him with the actual direction of the troops for the defence of the Convention. Bonaparte was also known to Carnot and Tallien, and other members of the Convention, as an able artillery officer. The choice being unanimously approved, Bonaparte quickly drew his line of defence round the Tuileries where the Convention was sitting, and along the adjoining quay on the north bank of the Seine. He depended mainly upon his cannon loaded with grape-shot, which he had placed at the head of the various avenues through which the national guards, the force of the citizens, must advance. The national guards had no cannon. They advanced on the morning of the 13th Vendemiaire (4th October, 1795), nearly 30,000 in number, in several columns, along the quays and the street of St. Honoré. As soon as they were within musket-shot, they were ordered to disperse in the name of the Convention; they answered by discharging their firelocks, and their fire was returned by discharges of grape-shot and canister, which did great execution. They returned several times to the charge, and attempted to carry the guns; but the fire of the cannon swept away the foremost, and threw the rest into disorder. Foiled at all points, after two hours' fighting, the national guards withdrew in the evening to their respective districts, where they made a stand in some churches and other buildings; but being followed by the troops of the Convention, they were obliged to surrender, and were disarmed in the night. The Convention did not use their victory with cruelty except those who were killed in the fight, few of the citizens were put to death, and only two of the leaders were publicly executed; others were sentenced to transportation. General Berruyer, Verdier, and others, served with Bonaparte on the occasion, but to Bonaparte chiefly the merit of the victory was justly attributed. He was appointed, by a decree of the Convention, second in command of the army of the interior, Barras retaining the nominal chief command himself; and soon after, the new constitution coming into operation, Barras, being appointed one of the directors, resigned his military command, and Bonaparte became general of the interior.

About this time Bonaparte became acquainted with Josephine Beauharnois, a native of Martinique, and the widow of the Viscount Alexandre de Beauharnois. The Director Barras, an old acquaintance of her husband, frequented her society, and she was also intimate with Madame Tallien, and other persons of note at that time. She was amiable, elegant, and accomplished. Bonaparte saw her often, and became attached to her. She was several years older than he was. He was now rapidly rising in his fortunes, and his marriage with a lady of rank and fashion (for rank, although nominally proscribed, began again to exercise a sort of influence in society), who was upon terms of intimacy with the political leaders of that period, would be advantageous to him. Such was the advice given to him by his friends, and particularly by Talleyrand. Barras also approved of the projected marriage. Meantime, Bonaparte had been applying to Carnot, the then minister at war, for active employment. The directors had at that time turned their attention towards Italy, where the French army, under General Scherer, was making no great progress. After gaining a victory over the Austrians, at Loano, in November, 1795, the French were still cooped up in the western Riviera of Genoa, between the mountains and the sea, without being able to penetrate into Piedmont; and this was the fourth year of that war carried on at the foot or in the defiles of the Alps and the Ligurian Apennines. Barras and Carnot proposed to give Bonaparte the command of the army of Italy, and the other directors assented. This appointment was signed the 23d of February, 1796; on the 9th of March following he married Josephine, and a few days after parted from his bride to assume the command of the army of Italy. Various reasons have been assigned for this appointment, for which there appears to be no evidence. He was appointed to the army of Italy because he was thought capable of succeeding. Perhaps also the directors were not sorry to have a general at the head of one of their armies who was a man of their choice, and apparently dependent upon their favour—one whose growing reputation might serve as a counterpoise to the widely-extended popularity of Moreau, Pichegru, Hoche, and the other generals of the first years of the Republic.

The army at Bonaparte's disposal consisted of about 50,000 men, of whom only two-thirds were fit for the field. It was in a wretched state as to clothing, and ill supplied with provisions; the pay of the soldiers was in arrears, and the army was almost without horses. The discipline also was very relaxed. The Piedmontese and Austrian combined army was commanded by Beaulieu, a gallant veteran: it was posted along the ridge of the Apennines, at the foot of which the French were advancing. Bonaparte, in his despatches to the Directory, stated the allied armies at 75,000 men, and his own effective troops at 35,000. On the 27th of March he arrived at Nice, and immediately moving his head-quarters to Albenga, pushed his advanced guard as far as Voltri, near Genoa. Beaulieu, with the Austrians' left, attacked Voltri and drove the French back; he at the same time ordered D'Argenteau, who commanded his centre, to descend by Montenotte upon Savona, and thus take the French in flank. On this road the French Colonel Rampon was posted with 1500 men on the heights of Montelegino. He was repeatedly attacked on the 10th of April by D'Argenteau, but he stood firm, and all the assaults of the Austrians could not dislodge him. This gave time to Bonaparte to collect his forces, and to march round in the night by Altare to the rear of D'Argentrau, whom he attacked on the following day, and obliged to make a disorderly retreat beyond Montenotte, before Beaulieu, on the left, or Colli, who commanded the Piedmontese at Ceva on the right, could come to his support. Bonaparte had now pushed into the valley of the Bormida, between the two wings of the allied army. Beaulieu and Colli hastened to repair this disaster, and re-establish their communications by Millesimo and Dego. On the 13th of April, Bonaparte sent Augereau to attack Millesimo, which he carried; but the Austrian General Provera, with 2000 men, threw himself into the old castle of Cossaria on the summit of a hill, where he withstood all the assaults of the French for that day. On the 14th the whole of the two armies were engaged. Colli, after an unsuccessful endeavour to relieve Provera, was driven back towards Ceva, while Massena attacked Beaulieu at Dego, and forced him to retire towards Acqui. Provera, without provisions or water, was obliged to surrender. The Piedmontese were now completely separated from the Austrians, which was the great object of Bonaparte's movements. The French remained for the night at Magliani, near Dego. All at once, early in the morning of the 15th, an Austrian division, 5000 strong, under General Wukassowich, coming from Voltri by Sassello, and expecting to find their countrymen at Dego, were astonished to find the French there, who were equally surprised at seeing the Austrians, whom they had driven away in their front, re-appear in their rear. Wukassowich did not hesitate; he charged into the village of Magliani and took it. Massena hurried to the spot to drive away the Austrians; Laharpe came also with reinforcements, but they could not succeed, until Bonaparte himself came, and at last obliged Wukassowich to retire. This was called the battle of Dego, but more properly of Magliani, the last of a series of combats which opened to Bonaparte the road into the plains of North Italy.

Beaulieu retired to the Po with the intention of defending the Milanese territory, leaving Colli and the Piedmontese to their fate. Bonaparte turned against Colli, drove him from Ceva, and afterwards from Mondovi, and beyond Cherasco. Colli withdrew to Carignano, near Turin. The provinces of Piedmont, south of the Po, being now open to the French, the king, Victor Amadeus III., became alarmed, and asked for a truce, which Bonaparte granted on condition that the fortresses of Cuneo and Tortona should be placed in his hands. A peace was afterwards made between the king and the Directory, by which the other Piedmontese fortresses and all the passes of the Alps were given up to the French. This defection of the king of Sardinia ensured the success of the French army. From his head-quarters at Cherasco Bonaparte issued an order to his soldiers, in which, after justly praising their valour, and recapitulating their successes, he promised to lead them on to further victory, but enjoined them at the same time to desist from the frightful course of plunder and violence which had already marked their progress in Italy.

Being now safe with regard to Piedmont, Bonaparte advanced against Beaulieu, who had posted himself on the left bank of the Po, opposite to Valenza, his troops extending eastwards as far as Pavia. Bonaparte made a feint of crossing the river at Valenza, while he despatched a body of cavalry along the right bank into the state of Parma, where they met with no enemy, seized some boats near Piacenza, and crossed over to the Milanese side. Bonaparte quickly following with a chosen body of infantry, crossed the river nearly thirty miles below Pavia. Beaulieu was now obliged to fall back upon the Adda after a sharp engagement at Fombio, on the road from Piacenza to Milan. Milan was evacuated by the Austrians with the exception of the castle. Bonaparte resolved to dislodge Beaulieu from his new position, and accordingly he attacked the bridge of Lodi, on the Adda, which the Austrians defended with a numerous artillery. He carried it by the daring bravery of his grenadiers and the bad dispositions of the Austrian commander, who had not placed his infantry near enough to support his guns. The Austrian army was panic-struck. Beaulieu attempted to defend the line of the Mincio, but he had only time to throw a garrison into Mantua, and he then withdrew behind the Adige into the Tyrol. Bonaparte took possession of Milan and of all Lombardy with the exception of Mantua, which he blockaded. Thus ended the first Italian campaign of 1796.

At the first entrance of the French, the people of Lombardy showed no enthusiasm either for or against the invaders; they had enjoyed half a century of peace under the administration of Austria, which under Maria Theresa and Joseph had effected many useful reforms, and acted in an enlightened, liberal spirit. The country was rich and thriving, as it always must be from its natural fertility so long as it enjoys peace and security to property. The Milanese looked upon the French invaders rather with wonder than either satisfaction or hostility. Ideas of a republic existed only in a few speculative heads; but there were many who sided with the French, in order to share their superiority and advantage as conquerors. The people of the towns behaved hospitably to the French troops, who on their side maintained a stricter discipline than they had done in passing through Piedmont. But the army was to be supported, equipped, and paid by the conquered countries; such was the system of the Directory and of Bonaparte. The Directory also wished to receive a share of the golden harvest to recruit its own finances, and its orders were to draw money from all the Italian states. Bonaparte accordingly put upon Lombardy a contribution of twenty millions of francs, which fell chiefly on the rich proprietors and the ecclesiastical bodies. He also authorized the commissaries to seize provisions, stores, and horses, giving cheques to be paid out of the contributions. This was done in the towns with a certain regularity, but in the country places the commissaries and soldiers often seized whatever they liked without giving any acknowledgment. The owners who remonstrated were insulted or ill used; and many of the Italians calling themselves republicans assisted the French in the work of plunder, of which they took their share. The horses and carriages of the nobility were seized, because it was said they belonged to the aristocrats. All property belonging, or supposed to belong, to the archduke and the late government, was sequestrated. But an act which exasperated the Milanese was the violation of the Monte di Pietà of Milan, a place of deposit for plate, jewels, &c., which were either left for security, or as pledges for money lent upon them. The Monte was broken into by orders from Bonaparte and Saliceti, who accompanied the army as commissioner of the Directory. They seized upon this deposit of private property, took away the most valuable objects, and sent them to Genoa to be at the disposal of the Directory. Many of the smaller articles belonged to poor people; many were placed there by the parents of young girls as a dowry when they came to be married. Although these smaller objects were not intended by Bonaparte to be detained, yet in the disorder of the seizure many of them disappeared, and a report spread through Milan that all had been seized. The same thing had been practised at Piacenza when Bonaparte and Saliceti passed through it; and afterwards the seizure, either partial or entire, of the Monti di Pietà, became a common practice of the French army in all the towns that they entered.

These excesses led to insurrections in different parts of the country. The inhabitants of Binasco, a large village between Milan and Pavia, rose and killed a number of the French and their Italian partisans. The country people ran towards Pavia, and were joined by the lower classes of that town. On the 23rd of May, Pavia was in open insurrection. The French soldiers took refuge in the castle; those scattered about the town were seized and ill treated; some were killed, but most had their lives saved by the interference of the magistrates. General Haquin, who happened to pass through on his way to Milan, was attacked by the frantic populace and wounded, but the magistrates, at their own risk, saved his life. In all this tumult the country people were the chief actors. Bonaparte, alarmed by this movement in his rear, and at the possibility of its spreading, determined to make an example, and to 'strike terror into the people,' a resolution which was frequently carried into effect in the progress of his arms. A strong body of French troops marched on Binasco, killed or dispersed the inhabitants, burned the place, and then marched against Pavia, which, being a walled town, was capable of making some defence. Bonaparte sent the archbishop of Milan, who, from the balcony of the town-house, addressed the multitude, and exhorted them to lay down their arms and to disperse. The ignorant and deluded people would not listen to his advice; the French forced one of the gates, and the cavalry entering the town, cut down all whom they met in the streets. The country people ran away by the other gates, and left the unfortunate city to the conqueror. Bonaparte then deliberately ordered Pavia to be given up to plunder for twenty-four hours, as if Pavia had been a fortified town taken by storm, though it was well known that the great majority of the inhabitants had taken no part in the insurrection. This order was publicly signified to the inhabitants and the troops, and during the rest of that day, the 25th of May, and the whole of that night, the soldiers rioted in plunder, debauchery, and every sort of violence within the houses of the unfortunate Pavese. Murder however was not added to pillage and rape, and it is recorded that several of the French officers and soldiers spared the honour and property of those who were at their mercy, and screened them at the risk of their lives from their more brutal companions. Next morning (the 26th) at twelve o'clock the pillage ceased, but Pavia for a long time felt the effects of this cruel treatment. It is not true, as has been stated, that the municipal magistrates were shot; they were only sent for a time as hostages to France. Four of the leaders of the insurrection were publicly executed, and about 100 had been killed on the first irruption of the French into the city. The university and the houses of some of the professors, Spallanzani's in particular, were exempted from pillage.

Bonaparte granted the Duke of Parma, who had not yet acknowledged the French Republic, terms of peace, on condition of his paying to France a million and a half of francs, besides giving provisions and clothes for the army, and twenty of his best paintings to be sent to Paris. The Duke of Modena, alarmed for his own safety, fled to Venice with the greater part of his treasures, leaving a regency at Modena, who sent to Bonaparte to sue for peace. Modena had committed no hostilities against France, but the duke was allied to the house of Austria by the marriage of his daughter with one of the archdukes: he was also considered as a feudatory of the Emperor of Germany. He was required to pay six millions of francs in cash, besides two millions more in provisions, cattle, horses, and other things, and fifteen of his choice paintings; but as he was not quick enough in paying the whole of the money, his duchy was taken from him a few months after. The Directory wanted cash, and Bonaparte says that during his first Italian campaigns he sent fifty millions of francs from Italy to Paris.

The Grand Duke of Tuscany, although brother to the Emperor of Austria, was an independent sovereign: he had long acknowledged the French Republic, and kept an ambassador at Paris; but the Directory ordered Bonaparte to seize Leghorn, and confiscate the property of the English, Austrians, Portuguese, and other enemies of the republic. Bonaparte took Leghorn without any opposition, put a garrison in it, seized the English, Portuguese, and other goods in the warehouses, which were sold by auction, and insisted upon the native merchants delivering up all the property in their hands belonging to the enemies of the French Republic. The Leghornese merchants, to avoid this odious act, agreed to pay five millions of francs, as a ransom for the whole. The pope's turn came next. That sovereign had not acknowledged the French Republic, in consequence of the abolition of the Catholic church in France. On the 18th of June the French entered Bologna, whence Bonaparte ordered away the papal authorities, and a municipal government. He did the same at Ferrara; and at the same time laid heavy contributions on both those provinces. The Monte di Pietà of Bologna shared the same fate as that of Milan, only the deposits or pledges (not exceeding 200 livres each, 8*l.* sterling) were ordered to be returned to the owners. The people of Lugo, a town between Imola and Ravenna, rose against the invaders. Augereau was sent against Lugo: after three hours' fight, in which 1000 of the natives and 200 French soldiers fell, Lugo was taken, given up to plunder, and partly burnt: the women and children were spared. Proclamations were then issued that every town or village which took up arms against the French should be burnt, and that every individual not a regular soldier taken with arms in his hands should be put to death.

The court of Rome was now in great alarm, and Pius VI. sent envoys to Bonaparte to sue for terms. An armistice was signed on the 23rd of June, preparatory to a definitive treaty of peace between the pope and the Directory. The conditions of the armistice were, that the pope should give up the provinces of Ferrara and Bologna, and the citadel of Ancona, should close his ports against the enemies of France, should pay fifteen millions of livres in gold or silver, and six millions in goods, provisions, horses and cattle, besides surrendering a certain number of paintings, statues, vases, and 500 manuscripts, to be selected by the commissaries sent by the Directory. This new species of spoliation was formed into a regular system, and carried on in all countries conquered by the French armies until the fall of Napoleon. Some of the scientific and learned men of France, among whom were Monge and Berthollet, went in succession to Parma, Milan, Bologna, Rome, and afterwards to Venice and Naples, to take an inventory of the works of art, from among which they chose the best, to be sent to Paris.

While these things were going on south of the Po, the court of Vienna was preparing a fresh army for the recovery of Lombardy. Marshal Wurmser, a veteran officer of considerable reputation, was detached with 30,000 men from the Austrian army of the Rhine. He marched into the Tyrol, where he collected the remains of Beaulieu's troops and the Tyrolese levies, forming altogether an army of between 50,000 and 60,000 men. Bonaparte's army was not quite 50,000, of which part was stationed round Mantua to blockade that fortress, which was garrisoned by 8000 Austrians. Towards the end of July, Wurmser, with the main body of his troops, advanced from Trento by the eastern shore of the Lake of Guarda, towards Verona; while another corps under Quosnadowich marched by the western shore to Salò and Brescia, from which places they drove the French away. Bonaparte hastily raised the siege of Mantua, leaving his battering train, and collected the best part of his forces to meet Quosnadowich as the weaker of the two generals. He attacked him at Lonato, drove him back into the mountains, and then turned quickly to the right to face Wurmser, who, having passed Verona, had entered Mantua, destroyed the French intrenchments, and was now advancing by Castiglione, from whence he had driven away the French under General Valette. This was a critical moment in Bonaparte's career, and it is said he thought of falling back on the Po, but was dissuaded by Augereau. On the 3rd of August the French retook Castiglione after an obstinate combat. Wurmser however took up a position near the town, where he was again attacked on the 5th, and completely defeated, with the loss of his cannon and several thousand men. Wurmser withdrew beyond the Mincio, and afterwards up the Adige into the Tyrol, followed by the French, who attacked and defeated an Austrian division at Roveredo on the 4th September, and entered the city of Trento. Wurmser then suddenly crossed the mountains which divide the valley of the Adige from that of the Brenta, and entered Bassano, where he was joined by some reinforcements from Carinthia, intending to march down again towards Verona and Mantua. But Bonaparte followed him quickly by the same road, and defeated him at Bassano. Wurmser had now hardly 16,000 men left, and his artillery being lost, and his retreat cut off, he took the bold resolution to cut his way to Mantua, and shut himself up in that fortress. With a rapidity of movements then unusual in an Austrian army, he avoided the French divisions which were advancing against him from various quarters: he surprised the bridge of Legnago, passed the Adige, marching day and night followed by Bonaparte, and at last reached Mantua on the 14th of September. Thus, in the course of six weeks, a second Austrian army was destroyed in detail. The rapidity of the movements of the French divisions, and the intricacy of their manœuvres, can only be appreciated by an attentive examination of the map of the country.

A third general and a third army were sent by Austria into Italy in the autumn of the same year. Marshal Alvinzi advanced from Carinthia by the way of Belluno with 30,000 men, while General Davidowich, with 20,000, descended from the Tyrol by the valley of the Adige. They were to meet between Peschiera and Verona, and to relieve Wurmser at Mantua. Bonaparte, who was determined to attack Alvinzi before he could form his junction, gave him battle at Le Nove, near Bassano, on the 6th of November; but in spite of all the efforts of Massena and Augereau, he could not break the Austrian line, and the next day he retreated by Vicenza to Verona. On the same day Vaubois, whom Bonaparte had opposed to Davidowich, was driven away from Trento and Roveredo with great loss, and obliged to fall back to Rivoli and La Corona. Had Davidowich followed up his success, he might have pushed on to the plains on the right bank of the Adige near Verona, and have placed Bonaparte in a very critical position, with Alvinzi in front, Davidowich on his left flank, and Mantua in his rear. Instead of this, Davidowich stayed ten days at Roveredo. In the mean time, Alvinzi had advanced by Vicenza and Villanova to the heights of Caldiero, facing Verona, where he waited for Davidowich's appearance. On the 12th of November, Bonaparte attempted to dislodge Alvinzi from Caldiero, but after considerable loss he was obliged to withdraw his troops again into Verona. The next day he wrote a desponding letter to Paris, in which he recapitulates his losses, his best officers killed or wounded, his soldiers exhausted by fatigue, and himself in danger of being surrounded. He however determined to make a last effort to dislodge Alvinzi by turning his position. With two divisions under Massena and Augereau he marched quietly out of Verona in the night of the 14th, followed the right bank of the Adige, crossed that river at Ronco early next morning, and moved quickly by a cross road leading through a marshy country towards Villanova in the rear of Alvinzi, where the Austrian baggage and stores were stationed. The Alpone, a mountain stream, ran between the French and Villanova. The French attempted to pass it by the bridge of Arcole, but found it defended, and this led to the celebrated battle of that name, which lasted three days, and was unquestionably the hardest fought in all those Italian campaigns. On the 17th Bonaparte succeeded in turning the position of Arcole, when Alvinzi thought it prudent to retire upon Vicenza and Bassano, where the Austrians took up their winter quarters. Bonaparte wrote to Carnot after the action of the third day: 'Never was a field of battle so obstinately contested: our enemies were numerous and determined. I have hardly any general officers left.' They were almost all killed, wounded, or prisoners.

On the same day that Bonaparte obliged Alvinzi to retire from the Adige, Davidowich, rousing himself from his inaction, pushed down by Ala on the Adige, drove Vaubois before him, and entered the plains between Peschiera and Verona. But it was too late: Bonaparte turned against him, and obliged him quickly to retrace his steps to Ala and Roveredo. Thus ended the third campaign of the year 1796.

Bonaparte had now some leisure to turn his attention to the internal affairs of the conquered countries. The Milanese in general remained passive, but the people of Modena and Bologna seemed anxious to constitute themselves into an independent state. Bonaparte himself had not directly encouraged such manifestations, but his subalterns had; and indeed the revolt of Reggio, which was the first Italian city that proclaimed its independence, was begun by a body of Corsican pontoneers, who were passing through on their way to the army. Bonaparte allowed Modena, Reggio, Bologna, and Ferrara to form themselves into a republic, which was called Cispadana. As for the Milanese, the Directory wrote that it was not yet certain whether they should not be obliged to restore that country to the emperor at the peace. Bonaparte has clearly stated his policy at that time towards the North Italians in a letter to the Directory, 28th December, 1796. 'There are in Lombardy (Milanese) three parties: 1st, that which is subservient to France and follows our directions; 2nd, that which aims at liberty and a national government, and that with some degree of impatience; 3rd, the party friendly to Austria and hostile to us. I support the first, restrain the second, and put down the third. As for the states south of the Po (Modena, Bologna, &c.), there are also three parties: 1st, the friends of the old governments; 2nd, the partisans of a free constitution, though somewhat aristocratical; 3rd, the partisans of pure democracy. I endeavour to put down the first; I support the second because it is the party of the great proprietors and of the clergy, who exercise the greatest influence over the masses of the people, whom it is our interest to win over to us; I restrain the third, which is composed chiefly of young men, of writers, and of people who, as in France and everywhere else, love liberty merely for the sake of revolution.'

The pope found that he could not agree to a peace with the Directory, whose conditions were too hard, and consequently, after paying five millions of livres, he stopped all further remittance. Bonaparte, after disapproving in his despatches of the abruptness of the Directory, and saying that it was impolitic to make too many enemies at once while Austria was still in the field, repaired to Bologna in January, 1797, to threaten the Roman States, when he heard that Alvinzi was preparing to move down again upon the Adige. The Austrian marshal had received reinforcements which raised his army again to 50,000 men. He marched them in several columns, threatening several points at once of the French line on the Adige, and Bonaparte for awhile was perplexed as to where the principal attack would be made. He learnt however through a spy that the main body of Alvinzi was moving down from the Tyrol along the right bank of the Adige upon Rivoli, where Joubert was posted. On the 13th Bonaparte hurried from Verona with Massena's division to Rivoli, and on the 14th the battle of Rivoli took place. Alvinzi, calculating upon having before him Joubert's corps only, had extended his line with the view of surrounding him. Twice was Rivoli carried by the Austrians, and twice retaken by the French. Massena, and afterwards Rey, with his division, coming to Joubert's assistance, carried the day. Alvinzi's scattered divisions were routed in detail with immense loss. Another Austrian division under General Provera had forced the passage of the Adige near Legnago, and arrived outside of Mantua, when Provera attacked the intrenchments of the besiegers, while Wurmser made a sortie with part of the garrison. Bonaparte hurried with Massena's division from Rivoli, and arrived just in time to prevent the junction of Provera and Wurmser. Provera, attacked on all sides, was obliged to surrender with his division of 5000 men, and Wurmser was driven back into the fortress. Alvinzi, with the remainder of his army, was at the same time driven back to Belluno at the foot of the Noric Alps. Wurmser being now reduced to extremities for want of provisions, offered to capitulate. Bonaparte granted him honourable conditions, and behaved to the old marshal with the considerate regard due to his age and his bravery.

During these hard-fought campaigns the condition of the unfortunate inhabitants of North Italy, and especially of the Venetian provinces, where the seat of war lay, was miserable in the extreme. The Austrian soldiers, especially in their hurried retreats, when discipline became relaxed, plundered and killed those who resisted: the French plundered, violated the women, and committed murder. The towns were subjected to a regular system of plunder by the French commissaries, by requisitions of provisions, clothes, horses and carts, and forced contributions of money. But the greater part of these enormous exactions contributed little to the comforts of the soldiers: they went to enrich commissaries, purveyors, contractors, and all the predatory crew, that follows an invading army. Bonaparte, although he resorted to the system of forced contributions, was indignant at the prodigal waste of the resources thus extorted from the people. 'Four millions of English goods,' he wrote to the Directory in October and November, 1796, from Milan, 'have been seized at Leghorn, the Duke of Modena has paid two millions more, Ferrara and Bologna have made large payments, and yet the soldiers are without shoes, in want of clothes, the chests without money, the sick in the hospitals sleeping on the ground. . . . The town of Cremona has given 50,000 ells of linen cloth for the hospitals, and the commissaries, agents, &c., have sold it; they sell every thing: one has sold even a chest of bark sent us from Spain; others have sold the mattresses furnished for the hospitals. I am continually arresting some of them, and sending them before the military courts, but they bribe the judges; it is a complete fair; every thing is sold. An employé, charged with having levied for his own profit a contribution of 18,000 francs on the town of Salò in the Venetian states, has been condemned only to two months' imprisonment. It is impossible to produce evidence; they all hold together. . . .' And he goes on naming the different commissaries, contractors, &c., concluding, with very few exceptions, that 'they are all thieves.' He recommends the Directory to dismiss them and replace them by more honest men, or at least more discreet ones. 'If I had fifteen honest commissaries, you might make a present of 100,000 crowns to each of them and yet save fifteen millions. . . . Had I a month's time to attend to these matters, there is hardly one of these fellows but I could have shot; but I am obliged to set off tomorrow for the army, which is a great matter of rejoicing for the thieves, whom I have just had time to notice by casting my eyes on the accounts.'

Bonaparte being now secure from the Austrians in the north, turned against the pope, who had refused the heavy terms imposed upon him by the Directory. The papal troops, to the number of about 8000, were posted along the river Senio between Imola and Faenza, but after a short resistance they gave way before the French, who immediately occupied Ancona and the Marches. Bonaparte advanced to Tolentino, where he received deputies from Pius VI., who sued for peace. The conditions dictated were fifteen millions of livres, part in cash, part in diamonds, within one month, and as many again within two months, besides horses and cattle, the possession of the town of Ancona till the general peace, and an additional number of paintings, statues, and MSS. On these terms the pope was allowed to remain at Rome a little longer. The Directors at first wished to remove him altogether, but Bonaparte dissuaded them from pushing matters to extremes, considering the spiritual influence which the pope still exercised over the Catholics in France and other countries. Bonaparte manifested in this affair a cool and considerate judgment very different from the revolutionary fanaticism of the times; he felt the importance of religious influence over nations, and he treated the pope's legate, Cardinal Mattei, with a courtesy that astonished the free-thinking soldiers of the republic.

Austria had now assembled a new army on the frontiers of Italy, and the command was given to the Archduke Charles. But this fourth Austrian army no longer consisted of veteran regiments like those who had fought under Beaulieu, Wurmser, and Alvinzi; it was made up chiefly of recruits joined with the remnants of those troops that had survived the former campaigns. Bonaparte, on the contrary, had an army now superior in number to that of the Austrians, flushed with success, and reinforced by 20,000 men from the Rhine under the command of General Bernadotte.

Bonaparte attacked the archduke on the river Tagliamento, the pass of which he forced; he then pushed on Massena, who forced the pass of La Ponteba in the Noric Alps, which was badly defended by the Austrian General Ocksay. The archduke made a stout resistance at Tarvis, but was at last obliged to retire, which he did slowly and in an orderly manner, being now intent only on gaining time to receive reinforcements and to defend the road to Vienna. Bonaparte's object was to advance rapidly upon the capital of Austria, and to frighten the emperor into a peace. He was not himself very secure concerning his rear, as he could not trust in the neutrality of Venice which he had himself openly violated. He was also informed that an Austrian corps in the Tyrol under General Laudon, after driving back the French opposed to it, had advanced again by the valley of the Adige towards Lombardy. If this movement had been supported by a rising in the Venetian territory, Bonaparte's communications with Italy would have been cut off. Dissembling his anxiety, he wrote to the archduke from Klagenfurth a flattering letter, in which, after calling him the Saviour of Germany, he appealed to his feelings in favour of humanity at large. 'This is the sixth campaign,' he said, 'between our armies. How long shall two brave nations continue to destroy each other? Were you even to conquer, your own Germany would feel all the ravages of war. Cannot we come to an amicable understanding? The French Directory wishes for peace. . . .' To this note the archduke returned a civil answer, saying he had no commission for treating of peace, but that he had written to Vienna to inform the emperor of Bonaparte's overtures. Bonaparte still continued to advance towards Vienna and the archduke to retire before him, without any regular engagement between them. It would appear that the archduke's object was to draw the enemy farther into the interior of the hereditary states, and then to make a bold stand under the walls of Vienna, while fresh troops would have time to come from Hungary and from the Rhine, and the whole population would rise in the rear of the French army. But there was a party at the court of Vienna anxious for peace. Bonaparte had now arrived at Judenburg in Upper Styria, about eight days' march from Vienna. The citizens of that capital, who had not seen an enemy under their walls for more than a century, were greatly alarmed. The cabinet of Vienna resolved for peace, and Generals Bellegarde and Meerfeldt were sent to Bonaparte's head-quarters to arrange the preliminaries. After a suspension of arms was agreed upon on the 7th of April, 1797, the negotiations began at the village of Leoben, and the preliminaries of the peace were signed by Bonaparte on the 18th. Of the conditions of this convention some articles only were made known at the time, such as the cession by the emperor of the Austrian Netherlands and of Lombardy. The secret articles were that Austria should have a compensation for these losses out of the territory of neutral Venice. This transaction has been loudly and justly stigmatized as disgraceful to all parties concerned in it, in spite of the palliation attempted by Bonaparte's advocates, who pretend that the Venetian senate had first violated their neutrality, and that they had organized an insurrection in the rear of the French army while Bonaparte was engaged with the Archduke Charles in Carinthia. But a careful attention to dates is sufficient to refute every attempt to palliate the dishonesty of the French Directory and Bonaparte in their conduct towards Venice. The correspondence of Bonaparte, published by Panckoucke, confirms this view of the subject. He says that he seized upon the opportunity of the Austrians having entered Peschiera by stratagem, and without the Venetian senate's consent, in order to frighten the senate into submission. 'If your object,' he said to the Directory, 'is to draw five or six millions from Venice, you have now a fair pretence for it. If you have further views respecting Venice, we may protract this subject of complaint until more favourable opportunities.' This was written in June, 1796. He then seized upon the castles of Bergamo, Brescia, Verona, and other fortified places of the Venetian state, he made the country support his army, and he favoured the disaffected against the senate, who at last, assisted by the Lombards and Poles in his army, revolted at Bergamo and Brescia and drove away the Venetian authorities. When the senate armed to put down the insurrection, the French officers stationed on the Venetian territory obstructed their measures and accused them of arming against the French; and they dispersed the militia who assembled in obedience to the senate. At last, the conduct of the French having driven the people of Verona to desperation, a dreadful insurrection broke out in April, 1797, which ended by Verona being plundered by the French. Bonaparte now insisted upon a total change in the Venetian government, and French troops being surreptitiously introduced into Venice, the Doge and all the authorities resigned.

A provisional government was then formed, but in the mean time Bonaparte bartered away Venice to Austria, and thus settled the account with both aristocrats and democrats. He wrote to the Directory 'that the Venetians were not fit for liberty, and that there were no more than 300 democrats in all Venice.' By the definitive treaty of peace signed at Campoformio near Udine on the 17th of October, 1797, the emperor ceded to France the Netherlands and the left bank of the Rhine with the city of Mainz; he acknowledged the independence of the Milanese and Mantuan states under the name of the Cisalpine republic; and he consented that the French republic should have the Ionian Islands and the Venetian possessions in Albania. The French republic on its part *consented* (such was the word) that the emperor should have Venice and its territory as far as the Adige, with Istria and Dalmatia. The provinces between the Adige and the Adda were to be incorporated with the Cisalpine republic. The emperor was also to have an increase of territory at the expense of the elector of Bavaria, and the Duke of Modena was to have the Brisgau.

All this time the democrats of Venice were still thinking of a republic and of independence; they had planted, with great solemnity, the tree of liberty in the square of St. Mark, and the French garrison graced the show. Bernadotte, who knew the conditions of the treaty, forbade a similar pageant at Udine, where he commanded; but another French commander put a heavy contribution on a small town of the Paduan province, because the inhabitants had cut down their tree of liberty. At last the time approached when the French were to evacuate Venice. Bonaparte wrote to Villetard, the French secretary of legation, a young enthusiastic republican, who had been a main instrument of the Venetian revolution, that all the Venetian democrats who chose to emigrate would find a refuge at Milan, and that the naval and military stores and other objects belonging to the late Venetian government might be sold to make a fund for their support. Villetard communicated this last proposal to the municipal council, but it was at once rejected; 'they had not accepted,' they said, 'a brief authority for the sake of concurring in the spoliation of their country. They had been too confiding, it was true, but they would not prove themselves guilty also;' and they gave in their resignation. Villetard, sincere in his principles, wrote a strong letter to Bonaparte, in which he drew an affecting picture of the despair of these men, who had trusted in him and now found themselves cruelly deceived. Bonaparte's answer has been often quoted for its unfeeling, sneering tone. 'I have received your letter, but do not understand its contents. The French republic does not make war for other people. We are under no obligation to sacrifice 40,000 Frenchmen against the interest of France, to please a band of declaimers whom I should more properly qualify as madmen, who have taken a fancy to have a universal republic. I wish these gentlemen would try a winter campaign with me . . . .' And then he went on quibbling on the words of the treaty, that the French republic did not deliver Venice into the hands of Austria; that when the French garrison evacuated the place, and before the Austrians came, the citizens might defend themselves if they thought proper—and this after the troops were disbanded, the Sclavonians sent home, the cannons and other arms removed, the fleet carried off by the French to Corfu, Istria and Dalmatia already occupied by the Austrians, and the country drained of all resources. However, Serrurier was ordered by Bonaparte to complete the sacrifice of Venice. Having emptied the arsenal, and the stores of biscuit and salt, having sent to sea the ships of war, sunk those that were not fit for sea, and stripped the famous state barge called Bucintoro of all its ornaments and gold, he departed with the French garrison, and the next day the Austrians entered Venice. The Venetian senator Pesaro came as imperial commissioner to administer the oaths. Thus ended the republic of Venice, after an existence of nearly fourteen centuries; and the only naval power of Italy became extinct.

During the several months that the negotiations for the peace lasted, Bonaparte had time to effect other changes in Italy. He began with Genoa. That republic, ever since the time of Andrea Doria, had been governed by patricians, but the patrician order was not exclusive as at Venice, and new families were admitted into it from time to time. A club of democrats, secretly encouraged by Saliceti, Faipoult, and other agents of the French Directory, conspired against the senate, and effected an insurrection. The lower classes of the people, however, rose in arms against the democrats, and routed them: several Frenchmen were also killed in the affray. Bonaparte immediately wrote threatening letters to demand satisfaction, the arrest of several patricians, the liberty of the prisoners, the disarming of the people, and a change in the constitution of the republic. All this was done; a sum of four millions of livres was paid by the principal nobles to the Directory, the French placed a garrison within Genoa, and a constitution modelled upon that then existing in France, with councils of elders and juniors, and a Directory, was put in operation. The people of the neighbouring valleys, who did not relish these novelties, revolted, but were put down by the French troops; and many of the prisoners were tried by court martial and shot.

The king of Sardinia, by a treaty with the French Directory, remained for the present in possession of Piedmont. Bonaparte showed a marked favour towards that sovereign; he spoke highly of the Piedmontese troops, and wrote to the Directory that the king of Sardinia with one regiment was stronger than the whole Cisalpine republic. Insurrections broke out in several towns of Piedmont, which Bonaparte however openly discountenanced, professing, at the same time, a deep regard for the House of Savoy. His letters to the Marquis of St. Marsan, minister of the king, were made public, and the insurgents having thus lost all hope of support from him, were easily subdued by the king's troops, and many of them were executed. Thus at one and the same time the democrats of Genoa were encouraged by Bonaparté, those of Piedmont were abandoned to the severity of the king, those of Venice were given up to Austria, and those of Lombardy were despised. Bonaparte wrote to the Directory that he had with him only 1500 Cisalpine soldiers, the refuse of the towns, that no reliance could be placed on the democrats, who were but a handful, and that were it not for the presence of the French they would be all murdered by the people. (Bonaparte's *Correspondence*.) He however thought proper to consolidate the Cisalpine republic, and to give it a constitution after the model of France. The installation of the new authorities took place at Milan on the 9th of July with great solemnity. Bonaparte appointed the members of the legislative committees, of the Directory, the ministers, and the magistrates. His choice was generally good; it fell mostly upon men of steady character, attached to order, men of property, men of science, or men who had distinguished themselves in their respective professions. The republic consisted of the Milanese and Mantuan territories, of that part of the Venetian territory situated between the Adda and the Adige, of Modena, Massa, and Carrara, and of the papal provinces of Bologna, Ferrara, Ravenna, Faenza and Rimini, as far as the Rubicon. Tuscany, Parma, Rome, and Naples remained under their old governors; all, however, with the exception of Naples, in complete subjection to France.

In all these important transactions Bonaparte acted almost as if he were uncontrolled by any authority at home: he was in fact the umpire of Italy. At the same time he supported the Directory in France by offers of his services and addresses from his army, and he sent Augereau to Paris, who sided with the Directory in the affair of the 18th Fructidor. Bonaparte, however, evinced on several occasions an indifferent opinion of the Directory, calling it a government of lawyers and rhetoricians, unfit to rule over a great nation. He flatly refused, after his first Italian victories, to divide his command with Kellerman; he strongly censured the policy of the Directory with the Italian powers; he signed the preliminaries of Leoben, and withdrew his army from the hereditary states, without waiting for the Directory's ratification. He insisted upon concluding peace with the emperor, and threatened to give in his resignation if not allowed to do so; he made that peace on his own conditions, though some of these were contrary to the wishes expressed by the Directory, and in the end the Directory approved of all that he had done. 'It was a peace worthy of Bonaparte. The Italians may perhaps break out into vociferations, but that is of little consequence.' Such were the words of the Directory's minister for foreign affairs, Talleyrand.

After the treaty of Campoformio Bonaparte was appointed minister plenipotentiary of the French republic a the congress of Rastadt for the settlement of the questions concerning the German Empire. He now took leave of Italy and of his fine army, which had become enthusiastically attached to him. His personal conduct while in Italy had been marked by frugality, regularity, and temperance. There is no evidence of his having shown himself personally fond of money; he had exacted millions, but it was to satisfy the cravings of the Directory, and partly to support his army and to reward his friends.

On his way to Rastadt Bonaparte went through Switzerland, where he showed a haughty hostile bearing towards Bern, and the other aristocratic republics of that country. He did not stop long at Rastadt, but proceeded to Paris, where he arrived in December, 1797. He was received with the greatest honour by the Directory: splendid public festivals were given to the conqueror of Italy; and writers, poets, and artists vied with each other in celebrating his triumphs. He however appeared distant and reserved. He was appointed general in chief of the 'Army of England,' but after a rapid inspection of the French coasts and of the troops stationed near them, he returned to Paris. The expedition of Egypt was then secretly contemplated by the Directory. A project concerning that country was found in the archives among the papers of the Duke de Choiseul, minister of Louis XV., and it was revived by the ministers of the Directory. The Directory on their part were not sorry to remove from France a man whose presence in Paris gave them uneasiness; and Bonaparte warmly approved of a plan which opened to his view the prospect of an independent command, while visions of an Eastern empire floated before him. He had in his composition something of a vague enthusiasm for remote countries and high-sounding names. He saw too there was nothing at present in France to satisfy his ambition, for he does not seem to have thought as yet of the possibility of attaining supreme power. He was still faithful to the republic, though he foresaw that its government must undergo further changes.

The expedition having been got ready, partly with the treasures that the French seized at Bern in their invasion of Switzerland in March, 1798, in which Bonaparte took no active part, Bonaparte repaired to Toulon, from whence he sailed on board the admiral's ship l'Orient in the night of the 19th of May, while Nelson's blockading fleet had been forced by violent winds to remove from that coast. The destination of the French fleet was kept a profound secret: 30,000 men, chiefly from the army of Italy, composed the land force.

The fleet arrived before Malta on the 9th of June. The

Order of St. John of Jerusalem, as it was called, had never acknowledged the French republic, and were therefore considered at war with it. The grand master Hompesch, a weak old man, made no preparations against an attack; yet the fortifications of La Valetta were such that they might have baffled the whole power of the French fleet and army, even supposing that Bonaparte could have spared time for the siege. But he was extremely anxious to pursue his way to Egypt, expecting every moment to be overtaken by Nelson and the English fleet, who, having received information of his sailing from Toulon, was eagerly looking out for him. Every moment was therefore of value to Bonaparte. With his usual boldness he summoned the Grand Master to surrender on the 11th, and the Grand Master obeyed the summons. It is well known that there were traitors among the knights in high offices, who forced the Grand Master to capitulate. After the usual spoliation of the churches, the alberghi, and other establishments of the Order, the gold and silver of which were melted into bars and taken on board the French fleet, Bonaparte left a garrison at Malta under General Vaubois, and embarked on the 19th for Egypt. As the French fleet sailed by the island of Candia, it passed near the English fleet, which having been at Alexandria, and hearing nothing of the French there, was sailing back towards Syracuse. On the 29th of June Bonaparte came in sight of Alexandria, and landed a few miles from that city without any opposition. France was at peace with the Porte, its chargé d'affaires, Ruffin, was at Constantinople, and the Turkish ambassador, Ali Effendi, was at Paris: the Turks of Egypt therefore did not expect the invasion. When they saw the French marching towards Alexandria, the garrison shut the gates, and prepared for defence. The town, however, was easily taken; and Bonaparte issued a proclamation to the inhabitants of Egypt, in which he told them that he came as the friend of the Sultan to deliver them from the oppression of the Mamelukes, and that he and his soldiers respected God, the Prophet, and the Koran. On the 7th of July the army moved on towards Cairo. They were much annoyed on the road by parties of Mamelukes and Arabs, who watched for any stragglers that fell out of the ranks. After a harassing march, the French on the 21st arrived in sight of the great pyramids, and saw the whole Mameluke force under Mourad and Ibrahim Beys encamped before them at Embabeh. The Mamelukes formed a splendid cavalry of about 5000 men, besides the Arab auxiliaries; but their infantry, composed chiefly of Fellahs, was contemptible. The Mamelukes had no idea of the resistance of which squares of disciplined infantry are capable. They charged furiously, and for a moment disordered one of the French squares, but they succeeded no further, having no guns to support them. The volleys of musketry and grape shot made fearful havoc among them; and after losing most of their men in desperate attempts to break the French ranks, the remnants of this brilliant cavalry retreated towards Upper Egypt; others crossed the Nile and retreated towards Syria. This was called the battle of the Pyramids, in which victory was cheaply bought over a barbarian cavalry unacquainted with European tactics. Two days after Bonaparte entered Cairo without resistance, and assembled a divan or council of the principal Turks and Arab sheiks, who were to have the civil administration of the country. He professed a determination to administer equal justice to all classes, even to the humblest Fellah, a thing unknown in that country for ages. He established an institute of sciences at Cairo: and he endeavoured to conciliate the good-will of the Ulemas and of the Imams. It is not true that he or any of his generals, except Menou, made profession of Islamism. The report originated in a desultory conversation he had with some of the sheiks, who hinted at the advantages that might result to him and his army from the adoption of the religion of the country. It was however a wild idea, unsuited both to him and the sort of men whom he commanded. It would have made him ridiculous in the eyes of his soldiers, and would not probably have conciliated the Moslem natives. While he was engaged in organizing the internal affairs of Egypt, the destruction of his fleet by Nelson took place in the roads of Aboukir on the 1st and 2nd of August. He was now shut out from all communication with Europe. The sultan at the same time issued an indignant manifesto, dated the 10th of September, declaring war against France for having invaded one of his provinces, and he prepared to send an army for the recovery of Egypt. A popular insurrection broke out at Cairo on the 22nd of September; and some Frenchmen were killed. Bonaparte, who was absent, returned quickly with troops; some of the insurgents were killed in the streets, and the survivors took refuge in the Great Mosque, the doors of which they barricaded. Bonaparte ordered the doors to be forced with cannon, and a dreadful massacre ensued; five thousand Moslems were killed on that day. Bonaparte then issued a proclamation in which, imitating the Oriental style, he told the Egyptians that he was the man of fate who had been foretold in the Koran, that any resistance to him was impious as well as useless, and that he could call them to account even for their most secret thoughts, as nothing was concealed from him.

In the month of December Bonaparte went to Suez, where he received deputations from several Arab tribes, as well as from the shereef of Mekka, whom he had propitiated by giving protection to the great caravan of the pilgrims proceeding to that sanctuary. From Suez he crossed, at ebb tide, over the head of the gulf to the Arabian coast, where he received a deputation from the monks of Mount Sinai. On his return to Suez he was overtaken by the rising tide, and was in some danger of being drowned. This he told Las Cases at St. Helena.

The Turks were now assembling forces in Syria, and Djezzar Pacha of Acre was appointed seraskier or commander. Bonaparte resolved on an expedition to Syria. In February, 1799, he crossed the desert with 10,000 men, took El Arish and Gaza, and on the 7th of March he stormed Jaffa, which was bravely defended by several thousand Turks. A summons had been sent to them, but they cut off the head of the messenger. A great number of the garrison were put to the sword, and the town was given up to plunder, the horrors of which Bonaparte himself in his despatches to the Directory acknowledges to have been frightful. Fifteen hundred men of the garrison held out in the fort and other buildings, until at last they surrendered as prisoners. They were then mustered, and the natives of Egypt being separated from the Turks and Arnaouts, the latter were put under a strong guard, but were supplied with provisions. Two days after, on the 9th, this body of prisoners was marched out of Jaffa in the centre of a square battalion commanded by General Bon. They proceeded to the sand-hills south-east of Jaffa, and there being divided into small bodies, they were put to death in masses by volleys of musketry. Those who fell wounded were finished with the bayonet. The bodies were heaped up into the shape of a pyramid, and their bleached bones were still to be seen not many years since. Such was the massacre of Jaffa, which Napoleon at St. Helena pretended to justify by saying that these men had formed part of the garrisons of El Arish and Gaza, upon the surrender of which they had been allowed to return home on condition of not serving again against the French:—on arriving at Jaffa however, through which they must pass, their countrymen detained them to strengthen the defence of that place. It may be safely doubted whether the whole of these men were the identical men of El Arish or Gaza. But however this may be, it is true that the Turks did not at that time observe the rules of war among civilized nations, and therefore, it may be said, were liable to be treated with the extreme rigour of warfare. The motive of this act was not wanton cruelty, but policy: such a body of determined men would have embarrassed the French as prisoners, or increased the ranks of their enemies if set at liberty. This is the only apology, if apology it be, for the deed. Another and a worse reason was, the old principle of Bonaparte of striking terror into the country which he was invading. But this system, which succeeded pretty well with the North Italians or the Fellahs of Egypt, failed of its effect when applied to the Turks or the Arabs; it only made them more desperate, as the defence of Acre soon after proved. Miot in his Memoirs has, it seems, made a mistake as to the number of the victims, whom he states at two or three thousand; they were about 1200.

At Jaffa the French troops began to feel the first attack of the plague, and their hospitals were established in that town. On the 14th the army marched towards Acre, which they reached on the 17th. Djezzar Pacha, a cruel but resolute old Turk, had prepared himself for a siege. Sir Sidney Smith, with the Tiger and Theseus English ships of the line, after assisting him in repairing the old fortifications of the place, brought his ships close to the town, which projects into the sea, ready to take part in the defence. The Theseus intercepted a French flotilla with heavy cannon and ammunition destined for the siege, and the pieces were immediately mounted on the walls and turned against the French. Colonel Philippeaux, an able officer of engineers, who had been Bonaparte's schoolfellow at Paris, and afterwards emigrated, directed the artillery of Acre. Bonaparte was compelled to batter the walls with only 12-pounders: by the 28th of March, however, he had effected a breach. The French crossed the ditch to the assault, and mounted the breach, but they were repulsed by the Turks led on by Djezzar himself. The Turks, joined by English sailors and marines, made several sorties, and partly destroyed the French works and mines. In the mean time the mountaineers of Naplous and of the countries east of the Jordan, joined by Turks from Damascus, had assembled a large force near Tiberias for the relief of Acre. Bonaparte, leaving part of his forces to guard the trenches, marched against the Syrians, defeated their undisciplined crowds at Nazareth and near Mount Tabor, and completely dispersed them: the fugitives took the road to Damascus. Bonaparte quickly returned to his camp before Acre, when the arrival of several pieces of heavy ordnance from Jaffa enabled him to carry on his operations with redoubled vigour. The month of April was spent in useless attempts to storm the place. Philippeaux died on the 2nd of May, but was replaced by Colonel Douglas of the marines, assisted by Sir Sidney Smith and the other officers of the squadron. The French, after repeated assaults, made a lodgment in a large tower which commanded the rest of the fortifications, upon which the Turks and the British sailors, armed with pikes, hastened to dislodge them. At this moment the long-expected Turkish fleet arrived with fresh troops, under the command of Hassan Bey, and the regiment Tchifflik, of the Nizam or regular infantry, was immediately landed. Sir Sidney Smith, without losing time, sent them on a sortie against the French trenches, which the Turks forced, seizing on a battery and spiking the guns. This diversion had the effect of dislodging the French from the tower. After several other attempts Bonaparte ordered an assault on a wide breach which had been effected in the curtain. General Lannes led the column. Djezzar gave orders to let the French come in, and then close upon them man to man, in which sort of combat the Turks were sure to have the advantage. The foremost of the assailants advanced into the garden of the pacha's palace, where they were all cut down; General Rambaud was killed, and Lannes carried away wounded. On the 20th of May Bonaparte made a last effort, in which General Bon and Colonel Veneux were killed, with most of the storming party. The army now began to murmur: seven or eight assaults had been made, the trenches and ditches were filled with the slain, which the fire of the besieged prevented them from burying; and disease, assisted by the heat of the climate, was fast spreading in their camp. After fifty-four days from the opening of the trenches, Bonaparte was under the necessity of raising the siege. The people of Mount Lebanon, the Druses, and Mutualis, who were at one time disposed to join him against Djezzar, seeing his failure before Acre, altered their mind, and sent a deputation on board the Turkish and English fleet. At the same time Bonaparte learnt that the great Turkish armament from Rhodes was about to set sail for Egypt: the Mamelukes had also assembled in considerable numbers in Upper Egypt, and were threatening Cairo. Accordingly he resolved to return to Egypt.

On the 21st of May the French army began its retreat from Acre. In the order of the day which he issued on that occasion, Bonaparte affected to treat with disdain the check he had met with, but he expressed himself very differently to Murat and his other confidants, and we find him, towards the end of his life at St. Helena, reverting to the subject with expressions of disappointment and regret. 'Possessed of Acre, the army would have gone to Damascus and the Euphrates; the Christians of Syria, the Druses, the Armenians, would have joined us. The provinces of the Ottoman Empire which speak Arabic were ready for a change, they were only waiting for a man. . . . With 100,000 men on the banks of the Euphrates, I might have gone to Constantinople or to India; I might have changed the face of the world. I should have founded an empire in the East, and the destinies of France would have run in a different course.' (Bonaparte's Conversations in Las Cases.)

The French army retreated through Jaffa, burning every thing behind them, harvest and all. 'The whole country is on fire in our rear,' is Berthier's laconic expression in his report of that campaign. Before continuing their retreat from Jaffa, Bonaparte ordered the hospitals to be cleared, and all those who could be removed to be forwarded to Egypt by sea. There remained about twenty patients, chiefly suffering from the plague, who were in a desperate condition, and could not be removed. To leave them behind would have exposed them to the barbarity of the Turks. Napoleon, some say another officer, asked Desgenettes, the chief physician, whether it would not be an act of humanity to administer opium to them. Desgenettes replied that 'his business was to cure, and not to kill.' A rear-guard was then left behind at Jaffa for the protection of these men, which remained there three days after the departure of the army. When the rear-guard left, all the patients were dead except one or two, who fell into the hands of the English, and they, or some other of the sick who were sent by sea and were also taken, having heard something of the suggestion about the opium, propagated the report that the sick had been really poisoned, which was believed both in France and in England for many years after. Such is the result of Las Cases' investigation of this business, both from Napoleon himself and from the chief persons who were at Jaffa at the time.

Bonaparte entered Cairo on the 14th of June. The Syrian campaign lasted little more than three months, and it cost the French about 4000 men, who were killed or died of the plague. The history of that memorable campaign is given in Berthier's official account, as chief of the staff, Sir Sidney Smith's despatches, and Miot's 'Memoirs:' the last appear to be rather exaggerated in some instances, but all agree in giving a sad picture of the condition and sufferings of the French army.

While Bonaparte was in Syria, Desaix had driven the Mamelukes from Upper Egypt, and beyond the cataracts of Assouan. The French had also occupied Cosseir. The division of Desaix contained the French savants, and Denon among the rest, who examined the monuments of Thebes, Dendera, Edfou, and other places.

Towards the end of July, Bonaparte being informed that the Turkish fleet had landed 18,000 men at Aboukir, under Seid Mustapha Pacha, immediately assembled his army to attack them. He had formed a cavalry, which was commanded by Murat; the Turks had none. The Turks had intrenched themselves near the sea, and the French attacked their advanced posts and drove them back upon their intrenchments; but the Turkish guns checked their progress, and threw the foremost of the assailants into disorder. The main body of the Turks then sallied out, but in the eagerness of their pursuit falling into complete disorder they were charged by the French; both infantry and cavalry were routed, and followed into their intrenchments, where they fell into inextricable confusion. About 10,000 of them perished, either by the bayonet or in the sea, where they threw themselves in hopes of regaining their ships. The sea was covered with their turbans. Six thousand men received quarter, together with the pacha, whom Bonaparte praised for his courage. This victory of Aboukir, fought on the 25th of July, 1799, closed Bonaparte's Egyptian campaign. It was after this battle that Bonaparte received intelligence of the state of France, through the newspapers, and also by letters from his brothers and other personal friends. He learnt the disasters of the French armies, the loss of Italy, the general dissatisfaction in France against the Directory, and the intrigues and animosities among the directors themselves, and between them and the legislative councils. He determined at once to return to France. He kept it however a secret from the army, and ordered two frigates in the harbour of Alexandria to be got ready for sea; and having ordered his favourite officers, Murat, Lannes, Berthier, Marmont, and also MM. Monge, Denon, and Berthollet to meet him at Alexandria, he left Cairo on the 18th of August, and on arriving at Alexandria embarked secretly on board the frigate La Muiron on the 23rd. He took leave of Kleber, whom he left in command, only by letter. He left in Egypt 20,000 men, having lost about 9000 in his campaigns. The English fleet had gone to Cyprus to get provisions, and Bonaparte was again fortunate enough to avoid the English cruisers. He is said to have read during the passage both the Bible and the Koran with great assiduity. On the 30th of September the two frigates entered the gulf of Ajaccio; on the 7th of October they sailed again, and passing unnoticed through the English squadron, they anchored on the 9th in the gulf of Frejus, to the eastward of Toulon. The usual forms of quarantine were dispensed with, and on his landing he was received with applause by the inhabitants of the various towns on his road to Paris. People were tired of the Directory, which had shown both incapacity and corruption, and to which they attributed all the late misfortunes of France. On arriving at Paris, Bonaparte found himself courted by the various parties. The republicans, with Generals Jourdan, Bernadotte, Augereau, and a majority in the Council of Five Hundred wished to restrain the power of the Directory, to turn out Barras, but to maintain the constitution of the year III. Sieyes, one of the directors, with a majority of the Council of Elders, wished for a new constitution, less democratic, of which he had sketched the outline. Barras strove to maintain the power of the Directory, of which till then he had been the most influential member. But his party was small, and in bad odour with the people. Bonaparte decided on joining Sieyes, and giving him his military support; the day for attempting the proposed change in the constitution was fixed between them and their friends.

The Council of Elders met at six o'clock in the morning of the 18th Brumaire (9th Oct. 1799) at the Tuileries; but several of the leading members of the republican party were not summoned. Cornudet, Lebrun, and other members in the interest of Sieyes, spoke of dangers which threatened the republic, of conspiracies of the Jacobins, and of a return of the reign of terror. The majority of the council were either in the secret, or were really agitated by fear of the Jacobins. The council adopted a resolution, according to the powers given to it by the constitution, by which the two councils were appointed to meet at St. Cloud the next day, in order to be safer from any attempts of the mob of the capital. By another resolution General Bonaparte was appointed commander-in-chief of the military division of Paris, and charged with protecting the safe removal of the councils. A message signifying this appointment, and summoning him to appear before the elders, was carried to Bonaparte while he was in the midst of his military levee. He immediately mounted on horseback, and invited all the officers to follow him. The greater number did so; but Bernadotte and a few more declined the invitation. Bonaparte had been talking privately with Bernadotte, but could not win him over to his side; he found him 'as stubborn as a bar of iron.' (Bourienne.) Bonaparte having given his orders to the adjutants of the various battalions of the national guards and to the commanding officers of the regular troops which were formed in the Champs Elysées, repaired to the Council of Elders, surrounded by a numerous retinue, among whom were Moreau, Berthier, Lannes, Murat, and Le Fèvre, who commanded the National Guards. He told the council that they represented the wisdom of the nation, that by their resolutions of that morning they had saved the republic, and that he and his brave companions would support them. Coming out of the hall he read to the assembled troops the resolutions of the elders, which were received by the soldiers with bursts of applause.

The three directors, Barras, Moulins, and Gohier, who had remained at the Luxembourg, after Sieyes and Ducos had gone to the Tuileries, became alarmed, and gave in their resignation. They had no force at their disposal; even their own personal guard had deserted them. Barras sent his secretary Bottot to endeavour to negotiate with Bonaparte. The general received him in public in the midst of his officers, and assuming the tone of an angry master upbraided the directors with their misconduct:—'What have you done with that France which I left to you prosperous and glorious? I left her at peace, and I find her at war; I left her triumphant, and I find nothing but spoliations and misery. What have you done with a hundred thousand Frenchmen whom I left behind, my companions in arms and in glory? They are no more . . . .' He then signified to Bottot in private his friendly sentiments towards Barras, and assured him of his personal protection if he immediately abdicated. Talleyrand had also seen Barras, who, having consented to resign, wrote a letter to the Council of Elders to that effect, and set off for his estate in the country under an escort which Bonaparte gave him. Gohier and Moulins being thus left alone did not constitute the number required by the constitution in order to give to their deliberations the authority of an executive council. Moreau was sent by Bonaparte to guard the palace of the Luxembourg, and in fact to keep the two directors prisoners there.

The Council of Five Hundred having met at ten o'clock on the same day, received a message from the elders, adjourning the sitting to St. Cloud for the next day. They separated amidst cries of 'The Republic and the Constitution for ever!'

Fouché, the minister of police, Cambacères, minister of justice, Talleyrand, and other influential men, seconded the views of Bonaparte and of Sieyes. The power of the Directory was at an end. The question was, what form of government should be substituted for it. It was at last agreed that the council should adjourn to the following year, after appointing a commission for the purpose of framing a new constitution, and that in the mean time an executive should be formed, consisting of three consuls, Sieyes, Ducos, and Bonaparte. These measures it was known would obtain a majority in the Council of Elders, but would meet with a determined opposition in that of the Five Hundred.

On the 19th Brumaire (10th November) the councils assembled at St. Cloud. The republican minority in the Council of Elders complained loudly of the hasty and irregular convocation of the preceding day. In the midst of the debate Bonaparte appeared at the bar, accompanied by Berthier and his secretary Bourienne, the latter of whom gives an account of the scene. He told the deputies that they were treading upon a volcano, that he and his brethren in arms came to offer their assistance, that his views were disinterested, 'and yet,' he added, 'I am calumniated—I am compared to Cromwell, to Cæsar.' This was uttered in a rambling, broken manner. Linglet, one of the minority, said to him, 'General, will you swear to the constitution of the year III.?' Bonaparte became animated: 'The Constitution!' he cried out, 'you violated it on the 18th Fructidor, you violated it on the 22nd Floréal, you violated it on the 30th Prairial. All parties by turns have appealed to the Constitution, and all parties by turns have violated it. As we cannot preserve the Constitution, let us at least preserve liberty and equality.' He then talked of conspiracies, and of danger to the republic. Several members insisted on the General revealing these conspiracies, and explaining these dangers. Bonaparte, after some hesitation, named Moulins and Barras, who he said had proposed to him to take the lead in the conspiracy. This increased the vociferation among the members: 'The General must explain himself—every thing must be told before all France.' But he had nothing to reveal. He spoke of a party in the Council of Five Hundred which wanted to re-establish the Convention and the reign of terror. His sentences became incoherent, he was confused, but at last he said, 'If any orator, paid by foreigners, attempts to put me out of the pale of the law, let him beware! I shall appeal to my brave companions, whose caps I perceive at the entrance of this hall.' Bourienne and Berthier now advised him to withdraw, and they came out together, when Bonaparte was received with acclamations by the military assembled before the palace.

The Council of Five Hundred had also assembled. The president, Lucien Bonaparte, read aloud the resignation of Barras, which had been forwarded by the Council of Elders. Some of the leaders then proposed to repeat the oath of fidelity to the Constitution, which was carried by acclamation. 'No dictator, no new Cromwell!' resounded through the hall. Augereau, who was present, went out and told Bonaparte what was passing in the council. 'You have placed yourself in a pretty situation.'—'Augereau,' replied Bonaparte, 'remember Arcole; things appeared still worse there at one time. Keep quiet, and in half an hour you will see.' He then entered the Council of the Five Hundred, accompanied by four grenadiers. The soldiers remained at the entrance; he advanced towards the middle of the hall, uncovered. He was received with loud and indignant vociferations. 'We will have no dictator, no soldiers in the sanctuary of the laws. Let him be outlawed! he is a traitor!' Bonaparte attempted to speak, but his voice was drowned in the general clamour. He was confused, and seemed uncertain what to do. Several members crowded around him; a cry of 'Let us save our General!' was heard coming from the door of the hall, and a party of grenadiers rushed in, placed Bonaparte in the midst of them, and brought him out of the hall. One of the grenadiers had his coat torn in struggling with a deputy; but the story of the daggers drawn against Bonaparte appears to be unfounded. Lucien, after the departure of his brother, attempted, in vain, to pacify the council. A motion was made to outlaw General Bonaparte. Lucien refused to put it to the vote, saying, 'I cannot outlaw my own brother,' and he deposited the insignia of president, and left the chair. He then asked to be heard in his brother's defence, but he was not listened to. At this moment a party of grenadiers sent by Napoleon entered the hall. Lucien put himself in the midst of them, and they marched out. He found the military already exasperated at the treatment their general had received. Lucien mounted on horseback, and in a loud voice cried out to them, that factious men, armed with daggers, and in the pay of England, had interrupted by violence the deliberations of the Council of Five Hundred, and that he, in his quality of president of that assembly, requested them to employ force against the disturbers. 'I proclaim that the assembly of the Five Hundred is dissolved.' This decided the business. The soldiers felt no scruples in obeying the orders of the president. Murat entered the hall of the Council at the head of a detachment of grenadiers with fixed bayonets. He summoned the deputies to disperse, but was answered by loud vociferations, execrations, and shouts of 'The Republic for ever!' The drums were then ordered to beat, and the soldiers to clear the hall. They levelled their muskets, and advanced to the charge. Many of the deputies jumped out of the windows; others went out quietly by the door. In a few minutes the hall was entirely cleared. In this affair the military were the instruments, and Lucien the chief director. It is well here to quote the words of Lucien, who, after a lapse of thirty-five years, filled with strange vicissitudes, has lately reverted to the subject in a pamphlet in answer to General Lamarque's *Memoirs*. 'We were convinced that the immense majority of the French would approve our proceedings, but our audacity did not wait for the legal manifestation of the wishes of France, and for this we hesitated. . . . The conqueror of so many battles was for a moment confused, not as it has been absurdly asserted through weakness, but because he was going to usurp a right which he had not then,—the right of dissolving the legislature; we hesitated because we had in view the scaffold and the stigma of traitors, which would have been our lot had we failed, without having time to take the votes of the nation upon our bold attempt. If Napoleon wavered a moment, he soon conquered his hesitation; we braved the scaffold, and all France gave us a bill of indemnity by raising my brother to the consulate, and afterwards (unluckily perhaps) to the empire.' (*Réponse de Lucien Bonaparte, Prince de Canino, aux Mémoires du Général Lamarque*, London, 1835.) And in another place he says, that 'the appeal of the councils to the constitution was an inconsistency, as that constitution had been already violated by themselves on the 18th Fructidor (1797). On that day the legality of the councils was lost; the inviolability of the Council of Five Hundred could only have continued as long as that assembly kept within the pale of the constitution. Beyond this there is no more legality for any one of the branches of the legislature.' One might go further back than the 18th Fructidor, and question the legality of the 13th Vendemiaire, in which Bonaparte had acted a conspicuous part. But to talk of legality in France, after the overthrow of the constitutional monarchy in 1792, would be merely a waste of time.

On the night of the same day (19th Brumaire) the elders again assembled, and agreed that a provisional executive of three consuls should be appointed. The initiative however belonging to the other council, Lucien assembled a small minority, some say only thirty members, out of Five Hundred, who on that night passed several resolutions, by one of which it was stated that there was no longer a directory. By another, a list of the more ardent republican members was drawn up, who were declared to have forfeited their seats in consequence of their violence and their crimes. By another, three provisional consuls were appointed, Sieyes, Ducos, and Bonaparte. At one o'clock in the morning Bonaparte took the oath before the council. At three o'clock the two councils adjourned for three months, after appointing a commission to revise the constitution.

Everything was now quiet at St. Cloud, and Bonaparte returned to Paris with Bourienne. After quieting the anxiety of his wife, he told Bourienne that he thought he had spoken some nonsense while before the councils. 'I had rather speak to soldiers than to lawyers. These fellows really put me out of countenance; I have not the habit of speaking before large assemblies. But the habit will come by and by.' On the evening of the following day, Bonaparte took up his residence in the Luxembourg, the palace of the ex-directors.

The fall of the Directorial Government was not a subject of regret with the great majority of the French people, who had neither respect for it nor any confidence in it. The profligacy and dishonesty of that government were notorious.

At the first sitting of the three consuls Sieyes having said something about a president, Ducos immediately replied, 'The General takes the chair of course.' Bonaparte began to state his views on the various branches of the administration, and he supported them in a firm authoritative tone. Ducos assented, and from that moment Sieyes perceived that his influence was at an end: he told his friends that they had given themselves a master. The three consuls, in conjunction with the commission appointed by the councils, framed a new constitution, which was called the constitution of the year VIII. The outline, with regard to the legislative power, was taken from a plan of Sieyes. It consisted of three consuls, of a senate called conservative, composed of eighty members appointed for life and enjoying a considerable salary, of a legislative body of

300 members, one-fifth of whom was to be renewed every year, and of a tribunate of 100 members, one-fifth to be renewed every year. The consuls, or rather the first or chief consul (for the other two were appointed by him and acted only as his advisers and assistants, but could not oppose his decisions), proposed the laws, the tribunate discussed them in public, and either approved of or rejected them; if it approved, it made a report accordingly to the legislative body, which voted by ballot on the project of law without discussing it. If the proposed law obtained a majority of votes, the senate registered it, and the consuls, in their quality of executive, promulgated it. The sittings of the senate were secret; those of the legislative body were dumb; the tribunate was therefore the only deliberative assembly in the state, but it had not the power of originating laws. The members of the tribunate were appointed by the senate out of lists of candidates made out by the electoral colleges. The senate filled its own vacancies from a triple list of candidates,—one proposed by the chief consul, one by the tribunate, and one by the legislative body. As for the legislative body, the members were selected by the senate out of lists of candidates furnished by the electoral colleges of the departments. The people therefore had no direct election of their representatives. This was the essential anomaly in Sieyes's plan of a constitution styled republican. The three consuls were appointed for ten years, and were re-eligible: the first or chief consul had the power of appointing to all public offices, and of proposing all public measures, such as war or peace: he commanded the forces, and superintended both the internal and foreign departments of the state. The granting of these vast powers met with some opposition in the commission, but Bonaparte sternly overcame them by declaring that if they attempted to weaken the power of the executive, he would have nothing more to do in the business, that he was already first consul, and hinted that a civil war might be the result of further opposition. The commission accordingly yielded to his views. In fact, most men were tired of revolutions, and they felt the necessity of a strong executive in order to re-establish order and internal security.

Bonaparte being thus confirmed in his office of first consul, had the right of naming the other two; he offered Sieyes one of the places, but Sieyes declined the offer. He accepted the place of senator, with the yearly salary of 25,000 francs, and the domain of Crosne, in the park of Versailles, belonging to the state. Bonaparte appointed Cambacères and Lebrun second and third consuls. They, together with Sieyes and Ducos, appointed the majority of the members of the senate, who themselves appointed the remainder. The senate next named the 100 tribunes and the 300 members of the legislative body, and thus the whole legislature was filled up at once under the plea of urgency, as there was no time to wait for the list of candidates to be named by the departments. The constitution was submitted to the people in every commune, and registers were opened for this purpose at the offices of the various local authorities: 3,012,569 voters were registered, out of which number 1562 rejected, and 3,011,007 accepted the new constitution, which was then solemnly proclaimed on the 24th December, 1799. Although the number of favourable voters did not constitute anything like one-half of the French citizens above twenty-one years of age, yet as all had had the power of registering their votes, it was considered that those who did not choose to do so, either did not care about the matter, or tacitly approved of the new form of government. The number of favourable votes on this occasion was much greater than that in favour of the former constitutions of 1792 and of the year III. Bonaparte did not altogether approve of Sieyes's constitution, although he had greatly modified it by strengthening the executive. 'Napoleon,' thus he spoke afterwards of himself at St. Helena, 'was convinced that France could only exist as a monarchy: but the French people being more desirous of equality than of liberty, and the very principle of the revolution being established in the equalization of all classes, there was of necessity a complete abolition of the aristocracy. If it was difficult to construct a republic on a solid basis without an aristocracy, the difficulty of establishing a monarchy was much greater. To form a constitution in a country without any kind of aristocracy would be as vain as to attempt to navigate in one element only. The French revolution undertook to solve a problem as difficult as the direction of a balloon. . . . The ideas of Napoleon were fixed, but the aid of time and events was necessary for their realization. The organization of the consulate presented nothing in contradiction to them: it taught unanimity, and that was the first step. This point gained, Napoleon was quite indifferent as to the forms and denominations of the several constituted bodies: he was a stranger to the revolution; it was natural that the will of those men who had followed it through all its phases should prevail in questions as difficult as they were abstract. The wisest plan was to go on from day to day without deviating from one fixed point, the polar star by which Napoleon meant to guide the revolution to the haven he desired.' (*Memoirs of Napoleon*, dictated to Gourgaud, vol. i.) This furnishes a clue to Bonaparte's subsequent policy with regard to the internal administration of France. Towards the end of January, 1800, Bonaparte removed from the palace of the Luxembourg to the Tuileries. Of his public entrance into that royal residence amidst the acclamations of the multitude, Madame de Staël has given a striking account.

The finances were left by the Directory in a wretched state: the treasury was empty, and forced loans arbitrarily assessed had been the chief resource of the government. Gaudin, the new minister appointed by Bonaparte, repealed the odious system, for which he substituted 25 per cent. additional upon all taxes. Confidence being thus restored, the merchants and bankers of Paris supplied a loan of twelve millions, the taxes were paid without difficulty, the sales of national domains were resumed, and money was no longer wanting for the expenses of the state. Cambacères continued to be minister of justice. About 20,000 priests who had been banished or imprisoned were allowed to return, or were set at liberty on taking the oath of fidelity to the established government. All persons arrested on mere suspicion, or for their opinions, were set free.

The subordinate situations under government were filled with men from all parties, chosen for their fitness. 'We are creating a new era,' said Bonaparte; 'of the past we must remember only the good, and forget the evil. Times, habits of business, and experience, have formed many able men, and modified many characters.' Agreeably to this principle, Fouché was retained as minister of police. Berthier was made minister at war instead of Dubois Crancé, the minister of the Directory, who could give no returns of the different corps, and who answered all questions by saying—'We neither pay, nor victual, nor clothe the army; it subsists and clothes itself by requisitions on the inhabitants.'

The churches which had been closed by the Convention were re-opened, and Christian worship was performed all over France. The Sabbath was again recognized as a day of rest, the law of the Decades was repealed, and the computation by weeks was resumed. The festival of the 21st of January, being the anniversary of the death of Louis XVI., was discontinued. The oath of hatred to royalty was suppressed as useless, now that the republic was firmly established, and as being an obstacle to the good understanding between France and the other powers.

France was still at war with Austria, England, and the Porte. Bonaparte sent Duroc on a mission to Berlin, by which he confirmed Prussia in its neutrality. The Emperor Paul of Russia had withdrawn from the confederation after the battle of Zürich, 25th September, 1799, in which Massena gained a victory over the Russian army. Bonaparte now wrote a letter to the king of England, expressing a wish for peace between the two nations. Lord Grenville, secretary of state for foreign affairs, returned an evasive answer, expressing doubts as to the stability of the present government of France, an uncertainty which would affect the security of the negotiations; 'but disclaiming at the same time any claim to prescribe to France what shall be the form of her government, or in whose hands she shall vest the authority necessary for conducting the affairs of a great and powerful nation. His Majesty looks only to the security of his own dominions and those of his allies, and to the general safety of Europe. Whenever he shall judge that such security can in any manner be attained, His Majesty will eagerly embrace the opportunity to concert with his allies the means of immediate and general pacification. Unhappily no such security hitherto exists; no sufficient evidence of the principles by which the new government of France will be directed, no reasonable grounds by which to judge of its stability.' This correspondence was the subject of animated debates in the British Parliament.

Bonaparte had made the overture in compliance with the general wish for peace, but he says himself that he was not sorry it was rejected, and 'that the answer from London filled him with secret satisfaction, as war was necessary to maintain energy and union in the state, which was ill organized, as well as his own influence over the imaginations of the people.' Bonaparte at the same time entered into negotiations with the principal Vendean chiefs, offering a complete amnesty for the past, and at the same time he sent troops to La Vendée to put down any further resistance. The royalist party had gained considerable strength; owing to the weak and immoral policy of the Directory, many officers of the republic, both civil and military, had entered into correspondence with it, because, as they confessed to Bonaparte, they preferred any thing to anarchy, and the return of the reign of terror. But the temperate and yet firm policy of the first consul effected a great alteration in public opinion. The Vendeans themselves were affected by it. The principal of them, Chatillon, D'Autichamp, the Abbé Bernier, Bourmont, and others, made their peace with the government by the treaty of Montluçon in January, 1800. Georges capitulated to General Brune, and the Vendean war was at an end.

Bonaparte now turned all his attention to the war against Austria. He gave to Moreau the command of the army of the Rhine, and himself assumed the direction of that of Italy. Massena was shut up in Genoa, and the Austrians under General Melas occupied Piedmont and the Genoese territory as far as the French frontiers. Bonaparte made a demonstration of assembling an army of reserve at Dijon, in Burgundy, which was composed of a few thousand men, chiefly conscripts or old invalids. The Austrians, lulled into security, continued their operations against Genoa and towards Nice, while Bonaparte secretly directed a number of regiments from the interior of France to assemble in Switzerland on the banks of the Lake of Geneva. He himself repaired to Lausanne on the 13th of May, and marched, with about 36,000 men and forty pieces of cannon, up the Great St. Bernard, which had till then been considered impracticable for the passage of an army, and especially for artillery. The cannons were dismounted, put into hollow trunks of trees, and dragged by the soldiers; the carriages were taken to pieces, and carried on mules. The French army descended to Aosta, turned the fort of Bard, and found itself in the plains of Lombardy, in the rear of Melas' Austrian army. Bonaparte entered Milan on the 2nd of June, without any opposition, and was there joined by other divisions which had passed by the Simplon and the St. Gothard. He now marched to meet Melas, who had hastily assembled his army near Alessandria. Passing the Po at Piacenza he drove back Melas' advanced guard at Casteggio near Voghera, and took a position in the plain of Marengo, on the right bank of the river Bormida in front of Alessandria. On the 14th of June Melas crossed the Bormida in three columns, and attacked the French. The Austrians carried the village of Marengo, and drove the French back upon that of San Giuliano, which was attacked by a column of 5000 Hungarian grenadiers. At four o'clock in the afternoon the battle seemed lost to the French, who were retiring on all points, and in considerable disorder, when Desaix arriving with a fresh division attacked the advancing column, while the younger Kellerman with a body of heavy horse charged it in flank. The column was broken, and General Zach, the Austrian second in command, and his staff, were taken prisoners. The commander-in-chief, Melas, an old and gallant officer, exhausted with fatigue, and thinking the battle won, had just left the field and returned to Alessandria. The other French divisions now advanced, and a panic spread among the Austrians, who, after fighting hard all day, had thought themselves sure of victory: they fled in confusion towards the Bormida, many being trampled down by their own cavalry, which partook of the general disorder. The Austrian official report stated their loss in killed, wounded, and prisoners at 9069 men, and 1423 horses. The French stated their own loss at 4000 only, and that of the Austrians at 12,000. But the loss of the French must have been greater. Desaix was shot through the breast in the charge; he fell from his horse, and telling those around him not to say anything to his men, he expired. He and Kellerman turned the fate of the battle. An armistice was concluded on the 16th of June between the two armies, by which Melas was allowed to withdraw his troops to the line of Mantua and the Mincio, the French keeping Lombardy as far as the river Oglio. Melas, on his side, gave up Piedmont and the Genoese territory with all their fortresses, including Genoa and Alessandria, to the French.

Bonaparte having established provisional governments at Milan, Turin, and Genoa, returned to Paris, where he arrived on the 3rd of July, and was received with the greatest enthusiasm. The battle of Marengo had wonderfully consolidated his power, and increased his influence over the opinion of the French. Negotiations for peace took place between Austria and France; Austria however refused to treat without England, and Bonaparte demanded an armistice by sea as a preliminary to the negotiations with England. Malta and Egypt were then on the point of surrendering to the English, and Bonaparte wished to send reinforcements to those countries during the naval armistice. But the armistice was refused by England, and hostilities were resumed by sea and by land. Moreau defeated the Austrians commanded by the Archduke John, in the great battle of Hohenlinden, and advanced towards Vienna. The French in Italy also drove the Austrians beyond the Adige and the Brenta. (For all this war of 1800 see *Précis des Evénemens Militaires*, par Mathieu Dumas.)

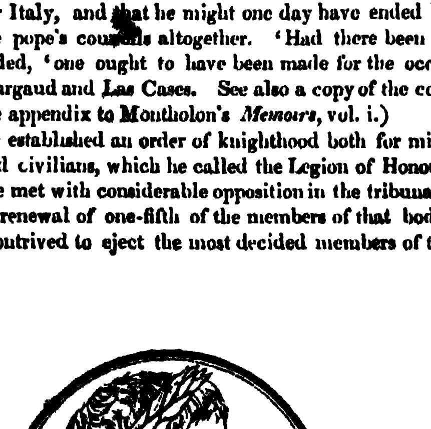
Austria was now obliged to make a separate peace. The treaty of Luneville, of the 9th of February, 1801, was arranged by the two plenipotentiaries, Count Cobentzel and Joseph Bonaparte, and was mainly grounded on that of Campoformio. Austria retained the Venetian territories, but Tuscany was taken away from the Grand Duke Ferdinand, and bestowed upon Louis, son of the Duke of Parma, who had married a princess of Spain. Through the mediation of the Emperor Paul of Russia, with whom Bonaparte was now on very friendly terms, the king of Naples also obtained peace. The new pope, Pius VII., was likewise acknowledged by Bonaparte, and left in full possession of his territories, except the legations which had been annexed to the Cisalpine republic. In the course of the same year negotiations were begun with England, where Mr. Addington had succeeded Mr. Pitt as prime minister: Egypt and Malta having surrendered to the English, the chief obstacles to peace were removed. The preliminaries of peace were signed at Paris on the 10th of October, 1801, and the definitive treaty was signed at Amiens, on the 27th of March, 1802. The principal conditions were, that Malta should be restored to the Knights of St. John, and that the forts should be occupied by a Neapolitan garrison. The independence of the Cisalpine, Batavian, Helvetic, and Ligurian republics was guaranteed. Egypt was restored to the Sultan, the Cape of Good Hope to Holland, and the French West India Islands to France. England retained the island of Ceylon.

Bonaparte had shown at this period an earnest desire for peace, which France stood greatly in need of. Both royalists and republicans were dissatisfied with his dictatorship. Joseph Arena, a Corsican and brother of Bartolomeo Arena of the Council of Five Hundred, who had warmly opposed Bonaparte on the 19th Brumaire, Ceracchi and Diana, Italian refugees, and several other violent republicans, formed a conspiracy against Bonaparte's life; but they were discovered and imprisoned. Soon after a fresh conspiracy of the royalists, some say of the royalists and Jacobins united, was near terminating the life of the first consul. As Bonaparte was passing in his carriage through the Rue Nicaise on his way to the Opera, on the 24th of December, 1800, a tremendous explosion of several barrels of gunpowder in a waggon, that was drawn up on one side of the street, destroyed several houses and killed many persons. Bonaparte's carriage had just passed, owing to the furious driving of the coachman, who was half intoxicated, and who made his way through all obstacles that had been purposely placed on the road. The police discovered the conspirators, who were fanatical royalists connected with the Chouans in the west of France. They were tried and executed. At the same time Arena, and his republican friends, who had been already found guilty, although, it was said, upon evidence not quite conclusive, were brought out of their confinement and executed. By a Senatus Consultum (for such the decrees of the Senate were styled) 130 known leaders of the old Jacobin party, several of whom had participated in the atrocities of the reign of terror, were ordered to be transported beyond the seas. Bonaparte expressed his determination to put down both Jacobins and Bourbonists. A law passed the legislative body empowering the executive to banish from Paris, and even from France, persons who should express opinions inimical to the present government. By another law, which passed the Tribunate by a majority of only eight, and was afterwards sanctioned by the legislative body, special criminal courts were established to try all persons accused of treason against the state. The secret police was now organised by Fouché with the greatest care, and numerous informers from all classes were taken into pay. Besides the general police, there was a military police, and another police establishment under Bonaparte himself, in his own household.

In April, 1801, a general amnesty was granted to all emigrants who chose to return to France and take the oath of fidelity to the government within a certain period. From this amnesty about 500 were excepted, including those who had been at the head of armed bodies of royalists, those who belonged to the household of the Bourbon princes, those French officers who had been guilty of treason, and those who had held rank in foreign armies against France. The property of the returned emigrants which had not been sold, was restored to them. Another conciliatory measure was the concordat concluded between Joseph Bonaparte and Cardinal Consalvi, which was signed by Pius VII. in September, 1801. The pope made several concessions seldom if ever granted by his predecessors. He suppressed many bishoprics, he sanctioned the sale of church property which had taken place, he superseded all bishops who had refused the oath to the republic, and he agreed that the first consul should appoint the bishops, subject to the approbation of the pontiff, who was to bestow upon them the canonical institution. The bishops, in concert with the government, were to make a new distribution of the parishes of their respective dioceses, and the incumbents appointed by them were to be approved by the civil authorities. The bishops, as well as the incumbents, were to take the oath of fidelity to the government, with the clause as to revealing any plots which they might hear of against the state. With these conditions it was proclaimed, on the part of the French government, that the Roman Catholic religion was that of the [illegible] Frenchmen; that its worship should be free, public, and protected by the authorities, but under such regulations as the civil power should think proper to prescribe for the sake of public tranquillity; that the clergy should be provided for by the state; and that the cathedrals and parish churches should be restored to them. The total abolition of convents was also confirmed. This concordat was not agreed to by the pope without some scruples, nor without much opposition from several of the theologians and canonists of the court of Rome. (*Compendio Storico su Pio VII.*, Milan, 1824; and also Botta, *Storia d'Italia del* 1789 *al* 1814.) On Easter Sunday, 1802, the concordat was published at Paris, together with a decree containing regulations upon matters of discipline, which were so worded as to make them appear part of the text of the original concordat. The regulations were that no bull, brief, or decision from Rome should be acknowledged in France without the previous approbation of the government; that no nuncio or apostolic commissioner should appear in France, and no council be held, without a similar consent; appeals against abuses of discipline were to be laid before the council of state; professors of seminaries were to subscribe to the four articles of the Gallican Church of 1682; no priest was to be ordained unless he was twenty-five years of age, and had an income of at least 300 francs; and lastly, that the grand vicars of the respective dioceses should exercise the episcopal authority after the demise of the bishop, and until the election of his successor, instead of vicars elected *ad hoc* by the respective chapters, as prescribed by the Council of Trent. This last article was most disliked by the court of Rome, as it affected the spiritual jurisdiction of the church. The pope made remonstrances, to which Bonaparte turned a deaf ear. Regulations concerning the discipline of the Protestant churches in France were issued at the same time with those concerning the Roman Catholic church. The Protestant ministers were also paid by the state.

On the occasion of the solemn promulgation of the concordat in the cathedral of Nôtre Dame the Archbishop of Aix officiated, and Bonaparte attended in full state. The old generals of the republic had been invited by Berthier in the morning to attend the levee of the first consul, who took them unawares with him to Nôtre Dame. Bonaparte said at St. Helena that he never repented of having signed the concordat: that it was a great political measure; that it gave him influence over the pope, and through him over a great part of the world, and especially over Italy, and that he might one day have ended by directing the pope's counsels altogether. 'Had there been no pope,' he added, 'one ought to have been made for the occasion.' (Gourgaud and Las Cases. See also a copy of the concordat in the appendix to Montholon's *Memoirs*, vol. i.)

Bonaparte established an order of knighthood both for military men and civilians, which he called the Legion of Honour. This measure met with considerable opposition in the tribunate. At the first renewal of one-fifth of the members of that body, the senate contrived to eject the most decided members of the opposition.



[To be concluded in § 2.]

LIFE OF NAPOLEON BONAPARTE.

§ II.—FROM THE PEACE OF AMIENS TO THE INTERMENT IN PARIS.

In January, 1802, Bonaparte convoked at Lyon the members of the provisional government of the Cisalpine republic, together with deputations of the bishops, of the courts of justice, of the universities and academies of the several towns and departments, and the national guards, of the regular army, and of the chambers of commerce. The number of deputies amounted to about 500, out of whom a commission of thirty members was selected, which made a report to the first consul of France on the actual state of the Cisalpine republic. The report stated that, owing to the heterogeneous parts of which that republic was composed, there was a want of confidence among them; that the republic was in a state of infancy, which required for some time to come the tutelary support of France: and it ended by requesting that the first consul would assume the chief direction of its affairs. Bonaparte repaired to the hall of the deputies, and delivered a speech which was an echo of the report: he agreed with all its conclusions, and confirmed them in more positive language. He told them that 'they should still be protected by the strong arm of the first nation in Europe, and that, as he found no one among them who had sufficient claims to the chief magistracy, he was willing to assume the direction of their affairs, with the title of President of the Italian Republic, and to retain it as long as circumstances should require.' The new constitution of the Italian republic was then proclaimed. Three electoral colleges—1. of proprietors; 2. of the learned; 3. of the merchants—represented the nation, and appointed the members of the legislature and the judges of the upper courts. The legislative body of seventy-five members voted without discussion on the projects of law which were presented to it by the executive. There were two councils, under the names of Consulta of State and Legislative Council, which examined the projects of law proposed by the president, the treaties with foreign states, &c. The principal difference between this constitution and that of France was in the composition of the electoral colleges, they being selected in Italy by classes, and in France by communes and departments, without distinction of classes; and also that in Italy there was no tribunate to discuss the projects of law proposed by the executive. But in both countries the election of members of the legislature was not made by the body of the people: in both, the executive power had the exclusive right of proposing laws; in both, the government was monarchical, under republican names, and tempered by constitutional forms. The president's office was for ten years, and he was re-eligible. He appointed to all civil and military offices, transacted all diplomatic affairs, &c. Bonaparte appointed Melzi d'Eril as vice-president, to reside at Milan in his absence. This choice was generally approved of. He also gave a new constitution to the Ligurian or Genoese republic, similar to that of the Italian republic; he did not, however assume the chief magistracy himself, but he placed a native doge at the head of the state.

On the 2nd of August, 1802, Bonaparte was proclaimed consul for life by a decree of the senate, which was sanctioned by the votes of the people in the departments to the number of three millions and a half. A few days after, another Senatus Consultum appeared, which altered the formation of the electoral bodies, reduced the tribunate to fifty members, and prepared the way in fact for absolute power. The [illegible] *le Consulat* by Thibaudeau explain the [illegible] place at the time.

Switzerland was at this time distracted by civil war. The French troops had evacuated the country after the peace of Amiens, but the spirit of dissension among the different cantons remained. Bonaparte called to Paris deputations from every part of Switzerland, and, after listening to their various claims, he told them that he would mediate among them: he rejected the schemes of unity and uniformity, saying that nature itself had made Switzerland for a federal country; that the old forest cantons, the democracies of the Alps, being the cradle of Helvetic liberty, still formed the chief claim of Switzerland to the sympathies of Europe. 'Destroy those free, primitive commonwealths, the monument of five centuries,' he added, 'and you destroy your historical associations, you become a mere common people, liable to be swamped in the whirlpool of European politics.' The new Helvetic federation was formed of nineteen cantons on the principle of equal rights between towns and the country: the respective constitutions varied according to localities. The general diets of the confederation were re-established. The neutrality of Switzerland was recognised; no foreign troops were to touch its territory; but the Swiss were to maintain a body of [illegible] men in the service of France, as they formerly did under the old monarchy. Bonaparte assumed the title of Mediator of the Helvetic League. He retained however Geneva and the bishopric of Basle, which had been seized by the Directory, and he separated the Valais, which he afterwards added to France. To the end of his reign Bonaparte respected the boundaries of Switzerland, as settled by the act of mediation; that country and the little state of San Marino were the only republics in Europe whose independence he maintained.

In the year 1800 Bonaparte had directed a commission of lawyers of the first eminence in France, under the presidency of Cambacères, to frame a code of laws for the kingdom. The commission consisted of Tronchet, president of the Court of Cassation, Bigot de Préameneu, Portalis, and Malleville. The first code which was framed, and of which a *projet* was printed early in 1801, was sent to the different courts of justice in France for their observations and suggestions. The observations and suggestions were also printed, and the whole was then laid before the section of legislation of the Council of State, consisting of Boulay, Berlier, Emmery, Portalis, Roederer, Real, and Thibaudeau. Bonaparte and Cambacères, his colleague in the consulship, took an active part in the debates. The various heads of the code were successively discussed, and then laid before the Tribunate, where some of the provisions met with considerable opposition. At length the code passed through the Tribunate and the legislative body, and was promulgated in 1804 as the Civil Code of France, 'Code Civil des Français.' When Napoleon became emperor, the name was changed to that of Code Napoleon, by which it is still often designated, though it is now styled by its original name of Code Civil. A Code de Procédure Civile, a Code de Commerce, Code d'Instruction Criminelle, and Code Pénal were afterwards compiled and promulgated under Bonaparte's administration. To these was subsequently added a Code Forestier, or regulations concerning the forests, which was promulgated [illegible]

Charles X. in 1827. All these codes are sometimes designated by the name of 'Les Six Codes.' A Code de la Conscription, and a Code Militaire, were also promulgated under Napoleon. All the codes promulgated under the administration of Bonaparte are sometimes confusedly designated by the name of the Code Napoleon.

Much has been said on the merits and defects of these codes, and particularly on the Code Civil. On this subject the reader may consult the article 'CODES, LES CINQ,' in the 'Penny Cyclopædia,' and the remarks in Scott's 'Life of Napoleon,' which, together with the various works therein referred to, will enable a person to form some opinion of this celebrated code. Préameneu himself has expressed his opinion of this great undertaking as of a perfect work: the Roman law, he observed, in the time of the old jurists, consisted of an infinite number of isolated decisions and rules, which it would have taken more than the ordinary period of human existence to master; but under Justinian, he added, Roman legislation emerged from its chaotic form, and Justinian's work was that which approached nearest to perfection, until a completely perfect work appeared in the Code Napoleon. This assertion, which shows the writer's ignorance of the true nature of Roman law, and of jurisprudence generally, indicates pretty clearly what defects one may expect to find in the legislation of Napoleon. The political circumstances of the time were not favourable to the undertaking; but these might have affected the rules of law which were established, without diminishing the value of the code as a piece of legislation. But the fact is, that the study of jurisprudence was at this time in a very low state in France; and whatever ability the various members of the commission might have, or those who took part in the discussions on the *projet*, it is obvious to all who know anything of jurisprudence that the general rules of law relating to such great divisions of the subject-matter as those of property and contracts cannot be adequately comprehended by persons who have not made these matters a special study. Accordingly, the Council of State had nothing to do with the code, so far as relates to its technical execution, which was the hasty work of the members of the commission. They were indeed lawyers by profession, but their gross ignorance of one of the elements out of which they constructed their new code, viz. the Roman law, is decidedly proved by evidence that is still on record. They used terms of Roman law without understanding them, and they adopted, or intended to adopt, rules of Roman law, of which however they formed completely erroneous conceptions. The consequence of all this was a degree of uncertainty and confusion in the new code which has been gradually detected in its application to practice. Other defects of this compilation as a work of art are exposed in a masterly manner by a German critic, who certainly is not favourable to Napoleon, but whose legal knowledge and sound judgment are above all praise (Savigny, *Vom Beruf unsrer Zeit zur Getzgebung und Rechtswissenschaft*). The legislation of Napoleon forms an important part of his history, and its true character, and the share that he really had in it, being much misunderstood, these few remarks will hardly be considered irrelevant.

The various branches of public instruction also attracted Bonaparte's attention, though in very unequal proportions. The task of providing elementary education was thrown upon the communes, but, the communes being mostly very poor, the establishment of primary schools met with many difficulties, and elementary education remained in a languishing and precarious state during the whole of Napoleon's reign. Several reports delivered by the councillor of state, Fourcroy, to the legislative [illegible] under the consulate and the empire, show the wretched [illegible] of primary and secondary instruction throughout France. The secondary instruction was chiefly given in private establishments. Fourcroy stated the number of pupils 10 years of age in the primary and secondary schools at , and this in a population of 32,000,000. Classical and literary instruction was supplied by the Lycæa to about 4000 pupils, whose expenses were defrayed by the state, besides boarders kept at the charge of their parents. The discipline of these establishments was altogether military. Latin, mathematics, and military manœuvres were the chief objects of instruction at the Lycæa. Scientific education was given in the special schools in the chief towns of France, such as the schools of law and of medicine, the college of France, and the polytechnic school at Paris, the military school at Fontainebleau, the school of artillery and engineers at Mainz, that of bridges and higwhays, or civil engineering, the schools for the mines, &c. Speculative, philosophical, and political studies met with little encouragement under Bonaparte's administration. He sneered at all such studies, and censured them as an idle and dangerous occupation.

The provincial administration of France was now organized upon one uniform plan, and was made entirely dependent on the central power or executive. Each department had a prefect, who had the chief civil authority; he was generally a stranger to the department, received a large salary, and was removed or dismissed at the will of Bonaparte. The mayors of the towns of 5000 inhabitants and upwards were appointed by Bonaparte; those of the communes under 5000 inhabitants, as well as all the members of the municipal councils, were appointed by the respective prefects. Thus all remains of municipal or communal liberty and popular election were quietly abrogated in France. 'I was a dictator,' says Napoleon, 'called to that office by the force of circumstances. It was necessary that the strings of the government, which extended all over the state, should be in harmony with the key-note which was to influence them. The organization which I had extended all over the empire required to be maintained with a high degree of pressure, and to possess a prodigious force of elasticity,' &c. (Las Cases, vol. iv.) His power in fact was much greater than that of the kings of the old monarchy, as his prefects were not men distinguished by rank and fortune and connexions, as the former governors and lieutenant-generals; they owed their whole power to their immediate commissions; they had no personal influence on opinion, and no force except the impulse which they received from the chief of the state.

After the peace with England, Bonaparte sent a fleet and an army under his brother-in-law, Gen. Leclerc, to St. Domingo, to reduce the blacks, who had revolted. A dreadful war ensued, which was marked by atrocities on both sides, and ended in the destruction of the French force, and the total emancipation of the blacks. At the same time he re-established the slavery of the blacks in Guadaloupe and Martinique, and authorized afresh the slave-trade. By a treaty with Spain, that country gave up Louisiana to France, which France afterwards sold to the United States for fifteen millions of dollars. By another treaty with Portugal, France acquired Portuguese Guiana. In Italy, France took possession of the duchy of Parma, on the death of the duke Ferdinand, in October, 1802. She likewise took possession of the island of Elba, by an agreement with Naples and Tuscany. The annexation of Piedmont to France next filled up the measure of alarm of the other powers at Bonaparte's encroachments. Since the victory of Marengo, Piedmont had been provisionally occupied by the French, and Bonaparte had held out hopes that he would restore it to the old king, for whom the Emperor Paul of Russia evinced a personal interest. He was then still at war with England, and he had formed a scheme of an offensive alliance with Russia at the expense of Turkey, with a view to march a combined army to India. The violent death of Paul having put an end to this scheme, he immediately procured a decree of the senate constituting Piedmont a military division of the French empire, under a council of administration, with General Menou at the head. Still the ultimate fate of Piedmont remained in suspense, as it was understood that the Emperor Alexander interested himself for the King of Sardinia. But after the assumption of the presidency of the Italian republic, and the annexation of Parma and Elba, and other stretches of power on the side of Holland and the Rhine, at which Alexander openly expressed his displeasure, Bonaparte having no further reason to humour him, a Senatus Consultum appeared in September, 1802, definitively incorporating Piedmont with the French republic, and dividing it into six departments, Po, Dora, Sesia, Stura, Marengo, and Tanaro. England on her side refused to deliver up Malta, as a Neapolitan garrison would have been a poor security against a sudden visit of the French. Lord Whitworth had a long and stormy conference with Bonaparte at the Tuileries on this subject. The English minister represented to him that the state of things which the treaty of Amiens had contemplated was completely altered by his enormous accession of power in Italy, but Bonaparte peremptorily rejected England's claim to interfere in his arrangements concerning other states; he insisted upon Malta being delivered up to some neutral power; and at the same time he did not disguise his further views upon Egypt. He complained of the attacks of the English press upon him (see Mackintosh on Peltier's trial); talked of conspiracies hatched in England against him, which he assumed that the English government was privy to, although Charles Fox himself, who was in opposition to the English minister of the day, had once, during his visit to Paris, told him with honest bluntness to drive that nonsense out of his head; he complained that every wind that blew from England was fraught with mischief for him; and at last, after an hour and a half of almost incessant talking, he dismissed the English minister to prepare for the renewal of hostilities. (See the instructions given by Bonaparte in his own handwriting to Talleyrand concerning the manner in which he was to receive Lord Whitworth at the last conference between them, in No. IV., Appendix to Sir W. Scott's *Life of Napoleon*. See also in the *Mémoires sur le Consulat*, by Thibaudeau, the real opinion of Bonaparte concerning the peace of Amiens, expressed by him confidently soon after the ratification:—'It was but a truce; his government stood in need of fresh victories to consolidate itself; it must be either the first government in Europe, or it must fall.') On the 25th of March, 1803, a Senatus Consultum placed at the disposal of the first consul 120,000 conscripts. England on her side was making active preparations. On the 18th of May England declared war against France, and laid an embargo upon all French vessels in her ports. In retaliation for this, a decree of the 22nd of May ordered that all the English of whatever condition found on the territory of France should be detained prisoners of war, on the pretence that many of them belonged to the militia. General Mortier was sent to occupy the Electorate of Hanover, which belonged to the King of Great Britain.

In the following September a decree of the consuls, 'in order,' as it is stated, 'to secure the liberty of the press,' forbade any bookseller to publish any work until he had submitted a copy of it to the commission of revision. Journals had already been placed under still greater restrictions.

In February, 1804, the police discovered that a number of emigrants and Vendéans were concealed at Paris; that General Pichegru, who, after his escape from Guiana, had openly espoused the cause of the Bourbons, was with them, and that he had had some interviews with General Moreau. Georges Cadoudal, the Chouan chief, who had once before submitted to the first consul, was likewise lurking about Paris. Pichegru, Moreau, and Georges were arrested. The real purpose of the conspirators has never been clearly known. Georges, it seems, proposed to take away the life of the first consul, but it was not proved that the rest assented to this. (See Bourienne.) It was also reported to Bonaparte that the young Duke of Enghien, son of the Duke of Bourbon, and grandson of the Prince of Condé, who was living at Ettenheim in the grand duchy of Baden, was in correspondence with some of the Paris conspirators, and that he was to enter France as soon as the intended insurrection should break out. Bonaparte, worried with reports of plots and conspiracies against him, gave orders to arrest the duke, although on a neutral territory. On the 14th of March a party of gendarmes from Strassburg crossed the Rhine, entered the Baden territory, surrounded the chateau of Ettenheim, seized the duke and his attendants, and took him to the citadel of Strassburg. On the morning of the 18th the duke was put into a carriage, and taken under an escort to the castle of Vincennes, near Paris, where he arrived in the evening of the 20th. A military court of seven members was ordered by the first consul to assemble at Vincennes that very night. The members were appointed by General Murat, commandant of Paris; General Hulin was president. The captain rapporteur, D'Autancourt, interrogated the duke. (See copy of the interrogatory and of the duke's answers in Bourienne's *Mémoires*, vol. v.) The charges brought before the court against the prisoner were: that he had borne arms against the French republic; that he had offered his services to the English government; that he was at the head of a party of emigrants assembled near the frontiers of France, and had treasonable correspondence with the neighbouring departments; and lastly, that he was an accomplice in the conspiracy formed at Paris against the life of the first consul. This last charge the duke indignantly denied, and there is not the least evidence that he was implicated in it, nor that he had corresponded with either Pichegru or Georges. (Bourienne.) He was, however, found guilty of all the charges. The duke expressed a desire to have an interview with the first consul. This, however, was overruled by Savary, who was present at the trial, though not one of the members, and who abruptly told the court that it was inexpedient to grant the prisoner's request. The duke was sentenced, by the same court, to death for the crimes of espionage, of correspondence with the enemies of the republic, and of attempts against the safety, internal and external, of the state. (*Jugement rendu par la Commission Militaire Spéciale séante à Vincennes, 30 Ventose, An XII. formée en vertu de l'Arrêté du Gouvernement du 29 Ventose, composée, d'après la loi du 19 Fructidor, An V. de sept membres, nommés par le Général en Chef Murat, Gouverneur de Paris, à l'effet de juger le nommé Louis Antoine Henri de Bourbon, Duc d'Enghien, né à Chantilly le 2 Août*, 1772.) Savary had orders from Bonaparte to see the sentence carried into execution, which was done that very night, or rather early in the morning of the 21st of March. The duke asked for a priest, which was refused; he then knelt down, and prayed for a minute or two, after which he was led down by torch-light to a postern gate, which opened into the castle ditch, where a party of gendarmes was drawn up, and a grave had been dug. It was dawn. Savary from the parapet gave the signal for firing. The duke fell dead, and was immediately buried in the dress he had on, without any funeral ceremony. (Savary's *Memoirs*, and General Hulin's pamphlet in extenuation of his share in the transaction.) It is remarkable that Murat, afterwards king of Naples, when himself under sentence of death, told Captain Stratti, who guarded him, 'I took no part in the tragedy of the Duke of Enghien, and I swear this before that God in whose presence I am soon to appear.' (Colletta, *Storia del Reame di Napoli*.) In fact, Murat, as governor of Paris, merely appointed the members of the court-martial according to the orders which he received. It is not true that the duke wrote a letter to Bonaparte which was not delivered to him, as Bonaparte himself seems to have believed. (Las Cases and Bourienne.) The apology which Bonaparte made at St. Helena for this judicial murder was, that he believed the duke was privy to the conspiracy against his life, and that he was obliged to strike terror among the royalists, and put an end to their plots by showing that he was not a man to be trifled with. An additional motive has been ascribed to him, namely, that of re-assuring the party implicated in the former French revolution against any fears they might have of his ever restoring the Bourbons.

On the 6th of April Pichegru was found dead in his prison.

About the same time, Captain Wright of the English navy, who, having been employed in landing Pichegru and the other emigrants in Brittany, was afterwards captured by the French and brought to Paris for the purpose of being examined concerning the conspiracy, was likewise reported to have been found dead. The death of these two men is still involved in mystery. Bonaparte has positively denied any knowledge of Captain Wright's death, and has asserted his belief that Pichegru really strangled himself, as it was reported. Yet, even freely admitting the sincerity of his statements, one may suspect that the agents of his police, screened as they were from all public responsibility, might, in their eagerness to serve their master, or rather themselves, have resorted to foul means to get rid of these men when they could not extract from them confessions which would suit their purpose. Bonaparte has repeatedly complained of the hasty zeal of some of his agents. It is stated by Bourienne that Pichegru's depositions did not inculpate Moreau, whom there was an apparent eagerness to find guilty. Some dark rumours were circulated about Captain Wright having been put to excruciating torture. It is very possible that Bonaparte himself did not know at that time all the secrets of his prison-houses. There is a remarkable passage in Bourienne, who, when he was French agent at Hamburg, kidnapped a spy, a really bad character, and sent him to Paris, 'where,' he says, 'Fouché no doubt took good care of him.' These are ominous words. In Montholon's *Memoirs* (vol. i.), Napoleon speaks of the arbitrary tyranny which the minister of police and his agents exercised, until, by his decree on state prisons of the 13th of March, 1810, he stripped them 'of that terrible power of committing any individual at their own pleasure, and keeping him in their own hands, without the tribunals taking any cognizance of the case.' This abuse had existed from the time of the convention.

The trial of Moreau, Georges, and the others, did not take place for several months after Pichegru's death. In the mean time a motion was made in the Tribunate, by one Curée, to bestow upon Napoleon Bonaparte the title of Emperor, with the hereditary succession in his family. Carnot alone spoke against the motion, which however was passed by a great majority on the 3rd of May. The resolution of the Tribunate was then carried to the Senate, where it was unanimously agreed to. It was then submitted to the votes of the people in the departments. Above three millions of the registered votes were favourable, and between three and four thousand contrary. It was said that in many places those who did not vote were registered as assentients, and that this was the case at Geneva. However, even before the votes were collected, Napoleon assumed the title of Emperor at St. Cloud on the 18th of May, 1804. On the 19th he issued a decree appointing eighteen of his first generals marshals of the French empire. Deputations with congratulatory addresses soon began to pour in from the departments, and the clergy followed the example. The first decrees of the new sovereign were headed---'Napoleon, by the grace of God and the constitution of the republic, Emperor of the French,' &c.; but the name of the republic was soon after dropped altogether.

In the month of June the trial of Moreau, Georges, and the others concerned in the conspiracy, took place before a special court. A decree of the Senate had previously suspended, for two years, the functions of the jury in cases of attempts against the person of Napoleon Bonaparte. Twenty of the accused, with Georges at their head, were condemned to death; Moreau, with four more, to two years' imprisonment; and the rest were acquitted, but the police seized them on coming out of court, and replaced them in prison at the command of the emperor. Rivière, Polignac, and some others who had been condemned to death, were reprieved by Napoleon through the entreaties of his wife and sisters. Georges and some of his more stubborn friends were executed. Moreau had his sentence

nment exchanged for perpetual banishment, and he

for the United States. The proceedings of the trial, and Moreau's defence, were published in the newspapers of the time.

Napoleon requested the pope to perform the ceremony of his coronation. After consulting with his cardinals, Pius VII. determined to comply with his wish, and came to Paris at the end of November, 1804. The coronation took place in the church of Notre Dame on the 2nd of December. The crown having been blessed by the pope, Napoleon took it himself from the altar and placed it on his head, after which he crowned his wife as empress. The heralds then proclaimed the accession 'of the high and mighty Napoleon I., Emperor of the French,' &c. &c.

The Italian republic was soon after transformed into a kingdom. A deputation of the consulta or senate proceeded to Paris in March, 1805, humbly requesting Napoleon to accept the ancient iron crown, the crown of Italy, with the condition that the two crowns of France and Italy should remain united only on Napoleon's head, and that he should appoint a separate successor to the Italian kingdom. On the 26th of May the ceremony was performed in the cathedral of Milan by the archbishop of that city. Napoleon seized the iron crown of the old Longobard kings, and placed it on his brow, saying, 'God has given it to me; woe to him who shall attempt to lay hands on it.' He appointed his step-son, Eugene Beauharnois, his viceroy of the kingdom of Italy. On the 7th of June Napoleon, in person, opened the session of the Italian legislative body. (See his speech on the occasion in *Storia dell' Amministrazione del Regno d'Italia durante il dominio Francese*, under the fictitious name of Coraccini, Lugano, 1823, which is the best book of reference for the history of the administration of Northern Italy under Napoleon.) About the same time the doge of Genoa, Durazzo, repaired to Milan with a deputation of senators, and expressed a wish on the part of the Genoese to be united to the French empire. A decree of Napoleon, of the 9th of June, united Genoa to France. The republic of Lucca was transformed into a principality, and given to Elisa, Napoleon's sister, and her husband Baciocchi, to be held as a fief of the French empire. Thus two more Italian republics disappeared: San Marino alone remained.

In the preceding year (1804) Napoleon had assembled a large force on the shores of the British Channel, with a flotilla at Boulogne, and had given it the name of 'the army of England.' The invasion of England and the plunder of London were confidently talked of among his soldiers. After his return from Milan he gave a new impulse to the preparations for the projected invasion, and spoke of it publicly as an attempt resolved upon. His real intentions however have been a matter of much doubt and controversy. Bourienne, who was then still near Bonaparte's person, positively states that he did not entertain any serious views of landing in England; that he was fully aware of the difficulty and risk of such an undertaking; that, even had he succeeded in landing 100,000 men, which was no easy matter, he might have lost one-half or two-thirds in taking possession of London; and, then, had the English nation persevered, he, not having the superiority at sea, could not have obtained reinforcements. Bonaparte, at St. Helena, spoke differently. He said that he had taken all his measures; he had dispersed his ships all over the sea; and while the English were sailing after them to different parts of the world, his ships were to return suddenly and at the same time; he would have had seventy or eighty French and Spanish ships in the Channel, with which he could have remained master of the narrow seas for two months. Three or four thousand boats and 100,000 men were ready at a signal. The enterprise was popular with the French, and was supported, Napoleon said, by the wishes of a great number of English. One pitched battle after landing, the result of which could not be doubtful, and in four days he would have been in London, as the nature of the country did not admit of a war of manœuvres; his army should have preserved the strictest discipline; he would have presented himself to the English people with the magical of liberty and equality, and as having come to restore to them their rights and liberties, &c. (Las Cases, vol. i. part ii.) It must be observed that all this declamation applies to his preparations towards the end of 1803 and the beginning of 1804, when he was still first consul and preserved a show of respect for the liberties of the people. To O'Meara he spoke in a rather different strain. He said he would have gone straight to London, and have seized the capital; that he would have had all the mob for him, all the low, dissipated and loose characters, all the restless and discontented, who abound in great cities, and who are everywhere the same, fond of change, and riot, and revolution. He would have excited the democratic element against the aristocracy; he would have revolutionized England. Whether, with such instruments let loose, he would have preserved the discipline of his army, and prevented the horrors that attended his invasion of Spain and other countries, he did not say. Luckily perhaps for all parties, the trial was not made. While his army was assembled near Boulogne, a new storm burst out on the side of Germany.

Austria had remonstrated against the never-ending encroachments of Napoleon in Italy. The Emperor of Russia, and Gustavus King of Sweden, protested against the violation of the German territory on the occasion of the seizure of the Duke of Enghien; the *Moniteur* answered them by taunts and gibes against the two sovereigns. By the treaty of Luneville the Italian, Batavian, and Ligurian republics were acknowledged as independent states, but Napoleon had now seized the crown of Italy, had annexed Liguria to France, and Holland and Hanover were occupied by his troops. Both Russia and Austria complained, but their complaints remained unheeded. A new coalition was formed in the summer of 1805 between England, Russia, Austria, and Sweden. Prussia was urged to join it; she hesitated, but she increased her armies, and remained neutral, looking forward to the events of the war. Austria, without waiting for the arrival of the Russians, who were assembling on the frontiers of Gallicia, marched an army into the electorate of Bavaria; and on the elector refusing to join the coalition, the Austrians entered Munich. General Mack, who had given sufficient proofs of incapacity in the field while commanding the Neapolitans in 1798, was by some strange influence placed at the head of the great Austrian army. The Archduke Charles commanded the Austrian forces on the side of Italy. Napoleon directed his army of England to march quickly to the Rhine: other troops from Holland, Hanover, and the interior of France, were ordered to march to the same quarter. He appointed Messina to command the army in Italy.

On the 23rd of September, 1805, Bonaparte went in state to the senate, where he delivered a speech on the occasion of the war. As this is a fair specimen of his peculiar style of oratory, we shall quote some extracts. 'The wishes of the eternal enemies of the Continent,' he said, 'are at last fulfilled; war is begun in the middle of Germany. Austria and Russia have joined England, and our generation is plunged again into all the calamities of war. . . . The Austrian army has crossed the Inn: the elector of Bavaria has been driven away from his capital; all my hopes of the preservation of peace have vanished. In this instance the wickedness of the enemies of the Continent has fully revealed itself. They feared the manifestation of my deep love for peace; they feared that Austria, at the sight of the precipice they have dug under her feet, might return to sentiments of justice and moderation, and they have hurried her into war. I sigh in thinking of the blood that this will cost Europe, but the French name shall derive a fresh lustre from it. Senators, when, at your request, at the voice of the whole French people, I assumed the imperial crown, I received of you and of all citizens a solemn engagement to preserve it pure and without stain. My people will rush to the standard of their emperor and of his army, which in a few days shall have crossed the frontiers. Magistrates, soldiers, citizens, all are determined to keep our country free from the influence of England, who, if she should prevail, would grant us none but an ignominious peace, the principal conditions of which would be the burning of our fleets, the filling up of our harbours, and the annihilation of our industry. I have fulfilled all the promises which I made to the French people, who in their turn have exceeded all their engagements towards me. In the present crisis, so important to their glory and mine, they will continue to deserve the name of the great people by which I have repeatedly saluted them on the fields of battle.'

It was by constantly throwing all the blame of the war upon the English, by continually representing them as a sort of incarnation of the evil principle ever intent on the ruin of France, that Bonaparte succeeded, in a country where great ignorance prevailed on political subjects, and where the press was sure not to contradict him, to create that spirit of bitter and deep animosity against England which continued to exist long after his death. It is curious to read the *Moniteur* of those times, and to see the barefaced assertions and charges against England with which its columns are filled. (*Recueil de Décrets, Ordonnances, Traités de Paix, Manifestes, Proclamations, Discours, etc., de Napoleon Bonaparte et des Membres du Gouvernement Français depuis le* 18 *Brumaire, An VIII.* [*Novembre*, 1799], *jusqu'à l'année* 1812 *inclusivement, extraits du Moniteur*, 4 vols. 8vo. 1813; a very useful book of reference.) In one instance the English were gravely accused of having thrown bales of infected cotton on the coast of France in 1804, in order to introduce the plague into that country; and the *Moniteur* (the official journal) added, 'the English cannot conquer us by the sword---they assail us with the plague;' and, strange to say, this absurd story has been revived in the 'Memoirs of Marshal Ney,' published at Paris in 1832.

Napoleon repaired to Mainz, where he took the command of the grand army, a name which was afterwards always applied to the army while he commanded in person. He also began in this campaign to issue regular bulletins of the events of the war. Coloured as these documents generally are (Bourienne, in his account of the Egyptian war, shows the process by which Napoleon used to frame them), they constitute however a series of important historical papers.

We cannot enter into the details of the campaign of 1805, and we must refer our readers to the professional statements of military men of both sides who were in it, such as Stutterheim's *Campaign of Austerlitz*; Rapp's *Memoirs*, &c. Suffice it to say that General Mack allowed himself to be surrounded at Ulm, and then surrendered, on the 17th of October, without fighting, with more than 20,000 men, and all his staff and artillery. The other Austrian divisions being now scattered about, could make no effectual resistance, and the French entered Vienna on the 13th of November. The Russian army had by this time assembled in Moravia, under the Emperor Alexander in person. Being joined by some Austrian divisions, it amounted to about 80,000 men. Napoleon told his soldiers that they were now going to meet a new enemy, 'who had been brought from the ends of the world by the gold of England.' Alluding to the high character borne by the Russian infantry, he added:---'This contest is of much importance to the honour of the French infantry. The question must be now finally settled whether the French infantry be the first or the second in Europe.' The great battle of Austerlitz was fought on the 2nd of December, 1805. The two armies were nearly equal in number. The Russians, confident of success, extended their line too much. Bonaparte broke through it and separated their divisions, which, after a stout resistance, especially on the part of the Russian Guards, were routed in detail. The loss of the allies was tremendous; thousands were drowned in the frozen lakes in the rear of their position. The Emperor of Austria had an interview with Napoleon the day after, and an armistice was concluded, by which the remaining Russian troops were allowed to retire to their own country. Peace between Austria and France was signed at Presburg on the 26th of December. Austria gave up the Venetian provinces and Dalmatia to the kingdom of Italy, Tyrol to the elector of Bavaria, and other districts, besides a contribution of one hundred millions of francs. This war, which was to have checked the preponderance of Napoleon in Italy, left that country entirely at his disposal, and established his influence over a great part of Germany, where, having raised the electors of Bavaria and Wurtemberg to the rank of kings, he placed himself at the head of all the smaller states, which he formed into the Confederation of the Rhine under his protection. The old German Empire was thus dissolved. Soon after, the Emperor Francis formally renounced his title of Emperor of Germany, and assumed the title of Francis I., Emperor of Austria and of his other hereditary states.

It must be observed that the position of Napoleon after the battle of Austerlitz, in the heart of Moravia, the winter having set in, and he far from the frontiers of France and from his reinforcements and supplies, the Russians, who were expecting reinforcements, in his front, Prussia wavering on his flank, Bohemia untouched, the Archduke Charles and the Hungarian insurrection in his rear, was extremely critical, if he protracted the war. All these circumstances induced him to grant Austria better terms than what she appeared to have a right to, on a mere superficial view of the condition of the two powers. The Austrian empire was not overthrown because Vienna was in the power of the invader. But Napoleon calculated on the habits and the fears of the Emperor Francis, and on his affection for the good citizens of Vienna; and he was not mistaken on this occasion.

The King of Naples, breaking his recent treaty with France, had allowed a Russian and English army to land in his dominions, where they remained useless during the great struggle that was going forward in Germany. Napoleon sent an army to Naples in February, 1806; and King Ferdinand took refuge in Sicily. A decree of Napoleon, March, 1806, appointed his brother Joseph King of Naples and of Sicily. On the 6th of June following, by another decree he appointed his brother Louis King of Holland, thus transforming by a stroke of the pen the Batavian republic into a kingdom dependent on France. His brother-in-law, Murat, was made Grand Duke of Berg.

During his victorious progress in Germany, Napoleon received the news of the total destruction of the French and Spanish fleets by Nelson at the battle of Trafalgar, on the 21st of October, 1805. His peevish remark on the occasion is said to have been---'I cannot be everywhere;' and he threw all the blame on his unfortunate admiral, Villeneuve, who soon after killed himself. From this time Napoleon renounced his plans of invading England, and he employed himself to destroy all English trade and correspondence with the Continent. Charles Fox, who had succeeded Pitt as minister, was known to be favourable to peace. Negotiations accordingly were entered into by Napoleon, on the basis of the *uti possidetis*. Lord Yarmouth, and afterwards Lord Lauderdale, were the English negotiators. Napoleon however required that Sicily should be given up to Joseph Bonaparte. But Sicily had never been conquered by the French; it had been throughout the war the ally of England, and, owing to that alliance, its sovereign had lost his continental dominions of Naples. To have bartered away Sicily to France would have been, on the part of England, an act of bad faith equal to if not worse than the former barter of Venice by the French. The English ministry refused to comply with this requisition, and Fox dying soon after, the negotiations broke off.

The conduct of Prussia had been one of tergiversation. Napoleon knew that she had felt the wish, without having the resolution, to strike a blow while he was engaged in Moravia against the Russians. To keep her in good humour he had given Hanover up to her, which Prussia, though at peace with the King of England, scrupled not to accept. She moreover shut her ports against British vessels. Bonaparte, after having settled his affairs with Austria, altered his tone towards Prussia. The *Moniteur* began to talk of Prussia as a secondary power, which assumed a tone that its extent and position did not warrant. In his negotiations with Lord Lauderdale, Napoleon had offered to restore Hanover to the King of England; and the Confederation of the Rhine extended round a great part of the Prussian frontiers. The Prussian minister at Paris, Von Knobelsdorf, in a note which he delivered to Talleyrand, on the 1st of October, 1806, said truly, 'that the king his master saw around his territories none but French soldiers or vassals of France, ready to march at her beck.' The note required that the French troops should evacuate the territory of Germany. Napoleon answered in a tone of sneer and defiance, saying, that 'to provoke the enmity of France was as senseless a course as to pretend to withstand the waves of the ocean.' The King of Prussia issued a long manifesto from his head-quarters at Erfurt, on the 9th of October, 1806, in which he recapitulated the long series of Napoleon's encroachments, which all the world was acquainted with, but which the King of Prussia seemed now to discover for the first time. Napoleon was speedily in the field; he attacked the Prussians first, and this time he had on his side a large superiority of numbers, added to his superiority of tactics. The double battle of Auerstadt and Jena (16th of October) decided the campaign. The Prussian troops fought bravely, but their generals committed the same error as the Austrian generals had committed before, of extending their line of operations too much. The consequences of the Prussian defeat were most disastrous. Most of their divisions were surrounded and obliged to lay down their arms. Almost all their strong fortresses, Magdeburg, Spandau, Kustrin, Stettin, Hameln, surrendered without firing a shot. The work of the great Frederick's whole life crumbled to pieces in a few weeks. Blucher and Lestocq were the only officers who kept some regiments together, with which they made a gallant stand in the northern provinces.

Bonaparte entered Berlin on the 21st of October. He despatched Mortier to occupy Hamburgh, and seize all English property there. On the 21st of November, 1806, Napoleon issued his well-known Berlin Decree against British commerce. 'The British islands were to be considered as in a state of blockade by all the Continent. All correspondence or trade with England was forbidden under most severe penalties. All articles of English manufacture or produce of the British colonies were considered as contraband. Property of every kind belonging to British subjects, wherever found, was declared lawful prize. All letters to and from England were to be detained and opened at the post-offices.' The English government retaliated by its orders in council of the 11th of November, 1807.

Meantime the King of Prussia had fled to Konigsberg, and the Russian armies advanced to the Vistula: the French occupied Warsaw. French agents had previously penetrated into Russian Poland, and had spread a report that Kosciusko was at Napoleon's head-quarters. Napoleon had indeed invited Kosciusko, who was then living in Switzerland, to come; but that single-minded patriot, mistrusting the views of the conqueror, declined the invitation. (*Mémoires de Michel Oginski sur la Pologne et les Polonais depuis* 1783 *jusqu'en* 1815.)

At his head-quarters at Posen, Napoleon received numerous addresses from various parts of Poland, entreating him to restore that country to its independence. His answers were cold and cautious. He began his winter campaign against the Russians by the battle of Pultusk (28th of December), in which the French experiencing a severe check retired towards the Vistula. The month of January, 1807, passed without any engagements, but on the 8th of February the great battle of Eylau was fought between the two grand armies. General Beningsen commanded the Russians. The French made repeated and furious attacks on the Russian infantry, which stood like walls of brass, and the assailants were at last obliged to desist. The battle lasted till near ten o'clock at night. The loss on both sides was dreadful; it has never been correctly ascertained, but has been roughly estimated at 50,000 men. After the battle Napoleon withdrew again to the line of the Vistula, and Beningsen retired towards Konigsberg. There was no more fighting between the two armies for more than three months after. The French now besieged Danzig, which was defended by the Prussian General Kalkreut, and surrendered at the end of May, 1807. Napoleon having reinforced his army to 200,000 men, again advanced towards the Russians. On the 13th of June the battle of Friedland took place, in which, after an obstinate struggle, the Russians were at last worsted, and driven beyond the river Aller. They did not lose however either cannon or baggage, and they effected their retreat upon Tilsit, near the Russian frontiers. (Sir Robert Wilson's *Sketch of the Campaigns in Poland in* 1806-7; and *Geschichte der Feldzüge Napoleons gegen Preussen und Russland in* 1806-7, Leipzig, 1809.

As Bonaparte and Alexander both wished for peace, an armistice was made, and a personal interview took place between the two emperors on a raft in the middle of the river Niemen on the 25th of June. The two sovereigns after this took up their residence in the town of Tilsit, where the treaty of peace was finally signed. The King of Prussia was restored to about one-half of his former territories, as far as the Elbe. The duchy of Warsaw was given to the elector of Saxony, who was made a king, and became the faithful ally of Napoleon. The principal Prussian fortresses and sea-port towns were to remain in the hands of the French till the general peace. Russia made no sacrifices; on the contrary, she obtained a part of Prussian Poland. But there were secret articles to the treaty, by which France allowed Russia to take Finland from Sweden, and Russia, on her part, promised to close her ports against British vessels. On the 9th of July Napoleon left Tilsit to return to Paris, where he received the usual tribute of servile addresses and fulsome flattery. (See specimens of these addresses in the *Moniteur*.)

On the 19th of August a Senatus Consultum suppressed the Tribunate, the only remains of a national deliberative body in France. It had been previously reduced to one-half of its original number. 'The Tribunate,' said Napoleon at St. Helena, 'was absolutely useless, while it cost nearly half a million; I therefore suppressed it. I was well aware that an outcry would be raised against this violation of the law; but I was strong; I possessed the full confidence of the people, and I considered myself a reformer. I did everything for the best. Had I been hypocritical, I should have maintained the Tribunate, for who can doubt that it would have adopted and sanctioned, when required, my views and intentions?' And speaking of the alleged servility of the Senate, he informs us that 'in almost every important measure many of the senators, before they gave their vote, came to communicate with him privately, and stated, sometimes very decidedly, their objections; but that they went away convinced either by his arguments, or by the necessity and urgency of affairs.' (Las Cases, vol. i.) Necessity and the urgency of circumstances were mighty words with Napoleon; they generally concluded all his arguments on matters of morality and politics. Whether these urgent circumstances were not often of his own creating or seeking, is a point which he seems not to have stopped to examine. Three committees of administration, of legislation, and of finance, taken from the legislative body, discussed the projects of law in place of the Tribunate.

Having stripped the Elector of Hesse Cassel of his dominions, on the ground that he had not joined him in the war against Prussia, as well as the Duke of Brunswick of his, on the ground that the Duke had joined Prussia against him, Napoleon created out of these and other districts the kingdom of Westphalia, 18th of August, and gave it to his brother Jerome, who took up his residence at Cassel. Soon after the Prince Regent of Portugal having refused to enforce the Berlin decree against England, Napoleon sent Junot with 30,000 men across Spain to take possession of Portugal. At the same time he published in the *Moniteur* that 'the House of Braganza had ceased to reign in Europe.' Junot entered Lisbon without opposition, on the 30th of November, 1807, the Prince Regent and his court having just before embarked for Brazil. In December of the same year, Napoleon having gone to Milan, sent for the Queen of Etruria and her son, and signified to her that she must resign Tuscany, which was immediately occupied by French troops; and in the following June (1808) Tuscany was formally annexed, not to the kingdom of Italy, but to the French empire, of which it formed three new departments. The queen was promised a compensation in Portugal, which she never obtained. On the 17th of December, 1807, Napoleon issued from Milan a decree by which all merchant vessels which should submit to the British orders in council were declared to be lawful prizes by the French. In the following year (1808) a number of American vessels were seized and confiscated in the French and Italian ports. The pope next felt Napoleon's displeasure. The French troops had for some time occupied Ancona and Civita Vecchia, in order to keep away the English and the Russians; but Napoleon now insisted on the pope declaring war against England. The pope answered that he was a sovereign of peace, and could not declare war against any Christian power. Napoleon said that as the successor of Charlemagne he was emperor of the West, king of Italy, and suzerain of the Pope; that the English were heretics, and therefore enemies of the holy see, and that the donation of Charlemagne had been made for the defence of the holy church against its enemies; that if the pope did not comply with his wishes, he, Napoleon, would resume Charlemagne's grant. We cannot go further into the long and vexatious correspondence and controversy between Napoleon and the court of Rome, which were carried on for several years, and which form an interesting episode in the general history of those times. (*Compendio Storico su Pio* VII., Milano, 1824; Botta, *Storia d'Italia*; Coppi, *Annali d'Italia*; and *Memorie Storiche del Cardinal Pacca*.) By a decree of the 2nd of April, 1808, Napoleon annexed the Marches or Adriatic provinces of the Roman state to his kingdom of Italy. There were other points of dispute between the pope and Napoleon on matters concerning the Concordat with the kingdom of Italy. (See a mild and well-written letter of the viceroy Eugene Beauharnois, to Pius VII. on this subject in the work already quoted, *Amministrazione del Regno d'Italia*.) About the same time (February, 1808) a French force under General Miollis entered Rome, occupied the Castle of St. Angelo, and began to do military duty in the city. The general took the papal troops under his own command. The pope remained in his palace with the mere shadow of a civil power, which he had no means of enforcing.

We now come to another and most important transaction of Napoleon's reign, the invasion of Spain. Spain was the humble and submissive ally of Napoleon; her navy, her army, her treasures were at his disposal. She was at war with Great Britain; she had allowed a free passage to the French troops through her territory to Portugal. Other French divisions had entered Spain as friends in the beginning of 1808, and seized by stratagem the fortresses of St. Sebastian, Pamplona, and Barcelona. At the same time the internal administration of Spain was carried on in the most corrupt and profligate manner. Charles IV., his Queen, and the favourite Godoy, had completely disgusted the Spaniards. An insurrectional movement took place at Aranjuez on the 20th of March, and Ferdinand, the heir to the crown, who was a favourite with the people, was proclaimed king, and Charles was induced to abdicate. Upon this Napoleon founded a pretence for interfering. He invited father, mother, son, and favourite to Bayonne, where he himself repaired in April. Charles and his queen went readily; Ferdinand hesitated; but Napoleon sent Savary, who, with many asseverations of his master's honourable and friendly intentions towards him, gradually decoyed the weak prince from stage to stage until he was fairly out of the Spanish territory.

A scene of duplicity and dishonesty, of indecent and unnatural recriminations, now took place between Napoleon, the old king, the queen, and her son, which for moral turpitude has no parallel in history. (Don Pedro Cevallos and the Canon Escoiquiz' accounts.) Charles resumed his character of king, stigmatized Ferdinand as a rebellious son; the queen joined in reviling him and disgracing him at the expense of her own and her husband's honour; and Ferdinand, overwhelmed by insults and threats, renounced his claim to the crown of Spain on the 6th of May. (Concerning the real sentiments of Ferdinand expressed in his intercepted letters, see Bausset, *Mémoires Anecdotiques sur l'Intérieur du Palais.*) Charles likewise resigned all his rights 'in favour of his friend and ally the Emperor of the French;' and Napoleon issued a decree, appointing 'his dearly-beloved brother Joseph Napoleon, king of Naples and Sicily, to the crowns of Spain and the Indies.' By a subsequent decree (15th July) he appointed 'his dearly-beloved cousin, Joachim Murat, grand duke of Berg, to the throne of Naples and Sicily, which remained vacant by the accession of Joseph Napoleon to the kingdoms of Spain and the Indies.' Both these curious documents are signed Napoleon, and countersigned by the minister secretary of state, Maret.

The memorable events which resulted from these nefarious transactions, the occupation of Madrid by Murat, the revolt and subsequent massacre of the people of that city on the 2nd of May, the insurrection which broke out simultaneously in all parts of the Peninsula against the invaders,—the heroic though often unfortunate resistance of the Spaniards,--the atrocities committed by the French troops, and the cruel retaliation by the Spanish guerrillas,---the long, murderous war of seven years, from 1808 till 1814, in which the British army acted a conspicuous part,---all these may be read in the numerous works written expressly on the subject of the Peninsular war. For the military transactions see Colonel Napier, General Foy, and Major Vacani, and the *Annals of the Peninsular Campaigns*, by Captain Hamilton. For the Spanish view of the subject, see Count Toreno, *Historia del Levantamiento, Guerra, y Revolucion de Espana*, Madrid, 1835; and Canga Arguelles, *Observaciones sobre las Historias de Southey, Londonderry, Clarke, y Napier*. For a general, historical, and political view of Spain during that period, see Southey's *History of the Peninsular War*. But the work which gives perhaps the best insight into the feelings and conduct of the Spaniards in the various provinces throughout that memorable struggle is the *Histoire de la Révolution d'Espagne*, by Colonel Schepeler, a Prussian officer, who was himself in the Spanish service during the whole time.

During the seven years of the Peninsular war 600,000 Frenchmen entered Spain at different times by the two great roads of Bayonne and Perpignan. There returned into France at various times about 250,000. The other 350,000 did not return. Making full deduction for those who remained prisoners in the hands of the Spaniards and English, and were afterwards set free at the peace of 1814, the number who perished during that war cannot be estimated at less than 250,000, if it does not rather approach to 300,000. (Schepeler and Foy.) The loss of the Spaniards, soldiers and peasants, who were destroyed in detail in almost every spot in the Peninsula, cannot be calculated, but it must have been greater than that of the French.

In the year 1808 Napoleon re-established titles of nobility in France. Lefèbvre, who had taken Danzig the year before, was the first duke that he created. Many others, both military men and civilians, received titles from towns in Italy and Germany, with an income charged upon the revenues or national domains of the conquered countries. Both the titles and the incomes attached to them were made hereditary.

In September, 1808, Napoleon repaired to Erfurt to hold conferences with the Emperor Alexander. The subject of these conferences remained a secret, but it would seem that the question of Turkey was agitated. Napoleon says that the principal obstacle to a partition of that country was Constantinople. It seems however that he consented to Russia encroaching on the frontier provinces of Turkey, as the Russian troops invaded Moldavia and Wallachia soon after the conference. On returning from Erfurt, Napoleon told his senate that he and the Emperor of Russia were irrevocably united in a bond of alliance.

The English in the mean time had re-conquered Portugal, and were advancing to the assistance of the Spaniards. King Joseph had been obliged to leave Madrid, and the French armies had withdrawn behind the Ebro. Napoleon resolved to set out for Spain himself. On the 25th October he opened in person the session of the legislative body with one of his characteristic speeches:—'The hideous presence of the English leopards contaminates the continent of Spain and Portugal. I go to place myself at the head of my armies, to crown my brother at Madrid, and to plant the French eagles on the ramparts of Lisbon.' Two days afterwards he set out for Spain.

On the 23rd of November, 1808, Napoleon defeated the Spanish troops at Tudela, and on the 4th of December Madrid capitulated. He told the Spanish deputation that their grandchildren would bless his memory. He then advanced towards Astorga, expecting to intercept Sir John Moore in his retreat. In this however he did not succeed, and leaving the task of pursuing the English to Soult and Ney, he suddenly quitted Astorga, and returned in haste to France in January, 1809.

A new Austrian war was on the point of breaking out. This time Austria came single into the field. She had made astonishing exertions to recruit her armies to the number of nearly half a million of men. Austria had apparently no new subject of complaint, except the alarm which she naturally felt at the rapid strides of Napoleon towards universal dominion. The Archduke Charles commanded the Austrian army of Germany, and the Archduke John that of Italy. The Austrians crossed the Inn on the 9th of April, and occupied Bavaria and the Tyrol. Napoleon quickly assembled his army beyond the Rhine, repaired to Augsburg, and by one of his skilful manœuvres broke the line of the Austrians, gained the battle of Eckmuhl, and obliged the Archduke Charles to retire into Bohemia, leaving the road to Vienna open to the French. (For the details of this campaign see General Pelet, *Memoires sur la Guerre de* 1809, 4 vols. 8vo. Paris, 1824-26.) On the 12th of May the French entered Vienna. The archduke now collected his army on the left bank of the Danube; Bonaparte crossed the river to attack him, and the great battle of Aspern took place on the 21st of May. The battle remained undecided; but on the following day it was renewed with fury on both sides, when, in the midst of the action, Bonaparte was informed that the bridge in his rear, which communicated with the right bank of the Danube, had been carried off by a flood. Upon this he ordered a retreat, and withdrew his army into the island of Lobau, in the middle of the Danube. The loss of the French was very great: Marshal Lannes was among the generals killed. Napoleon remained for six weeks on the island. Having re-established the bridge, and received reinforcements, he once more crossed to the left bank, and fought the battle of Wagram (6th July), in which he defeated the Austrians: the loss on both sides was tremendous. Still the Austrian army was not destroyed or dispersed, and the Archduke Charles was for continuing the struggle. Other counsels however prevailed, and an armistice was concluded at Znaym, and this led to the peace of Schonbrunn, which was not signed however till the 14th of October. Napoleon had entertained some idea of dismembering the Austrian empire; he had even addressed an invitation to the Hungarians to form an independent kingdom under a native ruler, but this address produced no effect. Germany began to be agitated by a spirit of popular resistance against him; bands of partisans under Schill, the Duke of Brunswick, and others had appeared; the Tyrol was still in arms, and he was not quite sure of Russia. The war in Spain continued with dubious success, and the English had landed a consider-this force at Flushing. He thought best therefore to grant peace to Austria on moderate conditions. The Archduke Charles disapproved of the peace, and gave up his command. Austria ceded Trieste, Carniola, and part of Croatia, Salsburg, Cracow, and Western Gallicia, and several other districts, to the amount of about two millions and a half of inhabitants. The brave Tyrolese were abandoned to their fate. Hofer and others of their chiefs were seized by the French, taken to Mantua, and there shot. (*Life of Andrew Hofer*, by Hall; and Inglis's *Tyrol.*)

Whether the subsequent marriage of Napoleon with a daughter of the Emperor Francis was in course of negotiation at the time of the peace of Schonbrunn has been doubted, but soon after his return to Paris he made known to his wife Josephine his determination to divorce her. A painful scene took place on this occasion, which is well described by De Bausset, prefect of the imperial household, in his *Mémoires Anecdotiques sur l'Intérieur du Palais*. Napoleon himself seems to have been sincerely affected at Josephine's grief, but his notion of the necessity of having an heir to the empire subdued his feelings. It is known that from the time of the conferences of Erfurt, and perhaps of Tilsit, he had contemplated a marriage with one of Alexander's sisters, and the project had been communicated to the Russian court, but the empress-mother had always objected to it on the plea of difference of religion. The divorce being consented to by Josephine in presence of commissioners from the Senate, the act was solemnly passed and registered on the 16th of December, 1809. On the 11th of March, 1810, Napoleon married by proxy the Archduchess Maria Louisa, who soon after set out for Paris. The marriage ceremony was performed at Paris by Cardinal Fesch.

The years 1810 and 1811 were the period of Napoleon's greatest power. There is an interesting report made by Count Montalivet of the situation of the French empire in 1810, which displays the gigantic extent of its dominions. One passage which refers to Holland is curious. That country was under the government of Louis Bonaparte, who felt really anxious for the welfare of his Dutch subjects, and did not enforce very strictly the Continental system, as it was styled, against English trade. This led to frequent reproofs from his imperious brother, who at last resolved to enforce his own decrees himself by uniting Holland to the French empire. (Louis Bonaparte's *Historical Documents and Reflections on the Government of Holland.*) Count Montalivet in his report made use of a curious argument to prepare the people's minds for this measure:—'Holland,' he said, 'is in reality a continuation of France; it may be defined as being formed out of the alluvia of the Rhine, the Meuse, and the Scheldt, which are the great arteries of the empire.' And Champagny, minister for foreign affairs, in a report to the emperor, said.—'Holland is an emanation of the French empire. In order to possess the Rhine, your Majesty must extend your territory to the Zuyderzee.' But even the Zuyderzee was not far enough. By a Senatus Consultum of the 13th of December, 1810, Holland, Friesland, Oldenburg, Bremen, and all the line of coast to Hamburg, and the country between that town and Lubeck, were annexed to the French empire, of which this new territory formed ten additional departments. The French empire now extended from the frontiers of Denmark to those of Naples, for Napoleon had finally annexed Rome and the southern papal provinces to France. The pope launched a bull of excommunication against Napoleon, upon which he was arrested in his palace on the Quirinal in the middle of the night of, the 5th of July, 1809, by a party of gendarmes who escaladed the walls, and was carried off to Savona, where he was kept prisoner until he was removed to Fontainebleau. (For an account of these proceedings, see *Memorie del Cardinal Pacca*, with the *Relation de l'Enlèvement du Pape Pie VII. et de son Voyage jusqu'à Florence*, par le Baron Radet, in the Appendix.) Radet was the colonel of gendarmes who seized the person of the pope. The papal territory was divided into two departments of the French empire, called the departments of Rome and of the Thrasymene, of which latter Perugia was the head town. Napoleon gave his 'good city of Rome' the rank of second town in the French empire.

Besides the French empire, which, thus extended, consisted of 130 departments, and contained 42 millions of people, Napoleon held under his sway the kingdom of Italy, which included Lombardy and Venice, Modena, Bologna, and the other Legations and the Marches, with above six millions of inhabitants; and the Illyrian provinces, including Dalmatia, Carniola, and part of Croatia, which formed a separate government. The kingdom of Naples, with about five millions more, was also dependent on his will, as well as the kingdom of Westphalia, and the grand duchy of Berg. The policy of Napoleon towards the countries which he bestowed on his brothers and other relatives was plainly stated by himself to his brother Lucien, in an interview at Mantua in 1811. 'In the interior, as well as the exterior, all my relatives must follow my orders: everything must be subservient to the interest of France; conscription, laws, taxes, all must be in your respective states for the advantage and support of my crown. I should otherwise act against my duty and my interest. No doubt you would like to act the part of a Medici at Florence,' (there had been some talk about placing Lucien over Tuscany,) but were I to allow you to do so, it is clear that Tuscany, happy and tranquil, would become an object of envy to the French.' He would not allow his brothers to identify themselves with their subjects, and to strengthen themselves on their thrones, because he foresaw that it might suit him some day to remove them on the occasion of a general peace, or upon some new scheme of his own. He sacrificed the people of those countries and their interests, as well as the happiness and the greatness of his brothers, to what he conceived to be the interest and the glory of France. (*Réponse de Lucien Bonaparte aux Mémoires de Lamarque.* But even his brothers were restive under this discipline. Louis ran away from his kingdom of Holland; Murat was in continual disputes with his brother-in-law (Colletta, *Storia del Reame di Napoli*); and Lucien would not accept any crown on such conditions.

As Protector of the Confederation of the Rhine, Napoleon had under his orders the Kings of Saxony, Bavaria, and Wurtemberg, the Grand Duke of Baden, and the other German princes. He had also under his protection the Helvetic Confederation, which was bound to furnish him with troops, and to follow his policy. Prussia, humbled and dismembered, lay entirely at his mercy. He could thus dispose of more than eighty millions of people. Never, since the fall of the Roman empire, had so great a part of Europe been subject to the will of one man. Austria was his ally through fear as well as by family connexion; Russia, through prudence and self-interest. In Sweden, General Bernadotte had been chosen Crown Prince, and, after obtaining Napoleon's consent, had repaired to Stockholm. Spain, bleeding at every pore, struggled hard, and apparently with little hope of ultimate success. Britain alone continued to defy his power, and held Sicily and Portugal under her protection. Such was the political condition of Europe at the beginning of 1811. In the month of March of that year Maria Louisa was delivered of a son, who was saluted by Napoleon as 'King of Rome,' an ominous title to those Italians who still fancied that the crown of Italy was to be, according to Napoleon's promise, separated from that of France.

In 1811 the first symptoms of coolness between Alexander and Napoleon manifested themselves. The complaints of the Russian landholders against the Continental system, which prevented their exporting by sea the produce of their vast estates, had induced Alexander to issue a ukase of the 31st of December, 1810, by which colonial and other goods were allowed to be introduced into the ports of Russia, unless they appeared to belong to subjects of Great Britain. This last restriction was of course easily evaded, and the trade with England might be said to be in reality opened again. This was soon made a ground of complaint on the part of Napoleon. The Russian emperor, on his side, complained that his relative, the Duke of Oldenburg, had been dispossessed of his territory contrary to the treaty of Tilsit. A third subject of difference was concerning Poland. Napoleon having, by the peace of Schonbrunn, united western Gallicia and Cracow to the duchy of Warsaw, seemed to encourage the prospect of re-establishing the whole of Poland as an independent state. But there was another and a deeper feeling of mistrust and insecurity on the part of the emperor, and the nobility of Russia in general, at the evident assumption of universal dictatorship by Napoleon, especially since his marriage with an Austrian archduchess. At Tilsit he had been willing to share the empire of the world with Russia, but now he would 'have no brother near his throne.' He summoned Sweden, in an imperious manner, to enforce his decrees against the British trade, while his armed vessels and privateers in the Baltic seized upon fifty Swedish merchantmen, which were confiscated, upon the charge of contraband trade with England. Lastly, in January 1812, General Davoust was sent to take possession of Swedish Pomerania and the island of Rugen. This act of aggression induced the crown prince, Bernadotte, to sign a treaty of alliance with the Emperor Alexander in March 1812. In the interview between these two princes at Abo in Finland, the plan of resistance to Napoleon was settled. Russia had not yet declared war, but she reinforced her armies, waiting to be attacked. Napoleon was pouring troops into Prussia, Pomerania, and the duchy of Warsaw.

Some of the older and wiser counsellors of Napoleon had the courage to remonstrate with him, not on the injustice, but on the impolicy of this new act of aggression. Fouché presented to him an eloquent memorial on the occasion. 'I regulate my conduct,' answered Napoleon, 'chiefly by the opinion of my army. With 800,000 men I can oblige all Europe to do my bidding. I will destroy all English influence in Russia, and then Spain will easily fall. My destiny is not yet accomplished; my present situation is but the outline of a picture, which I must fill up. I must make one nation out of all the European states, and Paris must be the capital of the world. There must be all over Europe but one code, one court of appeal, one currency, one system of weights and measures. Am I to blame if the great power which I have already attained forces me to assume the dictatorship of the world?' (Fouché's *Memoirs.*) To De Pradt at Dresden he said, 'I will destroy Russian influence in Europe. Two battles will do the business. the Emperor Alexander will come on his knees, and Russia shall be disarmed. Spain costs me very dear: without that I should be master of the world; but when I become such, my son will have nothing to do but to retain my place.' In calmer times, and after the full experience of disappointment, we find him confirming the sentiments which he had expressed on the former memorable occasions. After his return from Elba, he said to Benjamin Constant, 'I desired the empire of the world, and who in my situation would not?' The world invited me to govern it; sovereigns and subjects vied with each other in bending before my sceptre. I have rarely found any opposition in France.' And later at St. Helena, 'If I have been on the point of accomplishing the universal monarchy, it was without any original design, and because I was led to it step after step. The last effort wanting to arrive at it seemed so trifling, was it unreasonable to attempt it? . . . But I had no ambition distinct from that of France, her glory, her ascendency, her majesty, with which my own were identified. Had I lived in America, I should willingly have been a Washington: but had Washington been in France, exposed to discord within and attack from without, I would have defied him to be what he was in America.' . . . . (Las Cases, vol. i.) 'I have been spoiled by success. I have always been in supreme command: from my first entrance into life I have enjoyed high power; and circumstances, and my own energy of character, have been such, that from the instant I gained military superiority, I acknowledged neither masters nor laws.' (Las Cases, vol. iv. part i.)

The events of the memorable Russian campaign of 1812 are known to the world. We can only refer our readers to the works of Segur, and of Colonel Boutourlin, aide-de-camp to the Emperor Alexander; to the Memoirs of Oginski; and to the Italian account of Captain Laugier, *Gl' Italiani in Russia.* By consulting these various authorities, a sum of very correct information concerning that stupendous catastrophe may be obtained.

Before Napoleon left Paris for the Russian expedition, he directed Maret, Duke of Bassano, to write a letter to Lord Castlereagh, proposing negotiations for peace, on the basis of the *uti possidetis.* He was now willing to let Sicily remain under Ferdinand, and Portugal under the House of Braganza, but he insisted on Spain being secured to his brother Joseph. It must be observed, that Lord Wellington had just taken possession of Badajoz and Ciudad Rodrigo, and was advancing into Spain towards Madrid, which he shortly after entered upon gaining the battle of Salamanca. The English minister immediately replied, that England's engagements with the Spanish Cortes, acting in the name of King Ferdinand VII., rendered the acknowledgment of Joseph impossible.

The Russian minister, Prince Kourakin, still remained at Paris. Early in May he presented an official note to the Duke of Bassano, stating that the matters in dispute between the two empires might easily be made the subject of amicable negotiations, provided the French troops should evacuate Pomerania and the duchy of Warsaw, where they could be for no other purpose than that of threatening the frontiers of Russia. Napoleon pretended to be exceedingly angry at this demand, which he said was insolent, adding that he was not used to be addressed in such a style, and to have his movements dictated by a foreign sovereign; and he sent Prince Kourakin his passports. On the 9th of May he himself set off with his empress for Dresden, where he had invited the kings of his own creation, Bavaria, Wurtemberg, Saxony, Westphalia, and his other tributaries, to meet him. The Emperor of Austria also repaired to Dresden with his empress. The King of Prussia came too, as he had just signed a treaty with Napoleon, by which he placed 20,000 men at his disposal in the approaching campaign. Austria agreed to furnish 30,000 men to act against Russian Poland. Napoleon sent the Count de Narbonne to Wilna, where the Emperor Alexander then was, to invite him to come to Dresden, but Alexander declined the invitation. After brilliant festivals, Napoleon quitted Dresden for Thorn, where he arrived on the 2nd of June. His immense army was assembled chiefly between the Vistula and the Niemen, which latter river formed the boundary of the Russian empire. There were 270,000 French, 80,000 Germans of the Confederation of the Rhine, 30,000 Poles under Prince Poniatowski, 20,000 Italians under Eugene, and 20,000 Prussians. On the 22nd of June Napoleon issued a proclamation to his soldiers, saying, 'that the second war of Poland had begun. The fate of Russia must be fulfilled. Let us cross the Niemen, and carry the war into her own territory.' On the 24th and 25th of June Napoleon's army, in three large masses, crossed the Niemen, and entered Lithuania without meeting with any opposition. The Russian army, under General Barclay de Tolli, 120,000 strong, evacuated Wilna, and retired to the banks of the Dwina. Another Russian army, 80,000 strong, under Prince Bagration, was stationed near the Dnieper. On the 28th of June Napoleon entered Wilna, where he remained till the 16th of July. He there received a deputation from the diet of the duchy of Warsaw, entreating him to proclaim the union and independence of Poland. Napoleon's answer was still cold and cautious: he told them that he had guaranteed to the Emperor of Austria the part of Poland which he still retained; that for the rest they must depend chiefly on their own efforts. (De Pradt, *Ambassade de Pologne.*)

In the mean time, the French soldiers treated Lithuania as an enemy's country. The provisions ordered by Napoleon to follow his army not having arrived, and the Russians having removed all the stores, the French and German soldiers went about marauding, plundering alike the mansions of the nobility and the huts of the peasants, feeding their horses on the green corn, violating the women, and killing those who resented such treatment. (Oginski and Segur.) Lithuania, a poor and thinly-inhabited country, which had suffered from the bad harvest of the preceding year (1811), was utterly devastated. At the same time, disorganisation and demoralization spread fearfully throughout the enormous masses of the invaders; disease thinned their ranks; 25,000 patients were crowded within Wilna in a few weeks, where there was not accommodation for one-third of the number; heavy rains rendered the roads impassable, and 10,000 horses were lost.

After partial engagements at Mohilow and Witepsk, the Russians continued their retreat upon Smolensk, in the interior of Russia. Napoleon determined to follow them. 'Forward marches alone,' he observed, 'can keep such a vast army in its present condition together; to halt or retire would be the signal of dissolution. It is an army of attack, not of defence; an army of operation, not of position. We must advance upon Moscow, and strike a blow in order to obtain peace, or resting quarters and supplies.' (Segur.) He crossed the Dnieper, and entered Russia Proper with about 180,000 men, leaving a body of reserve at Wilna and the corps of Macdonald on the Dwina, towards Riga. In his march through Lithuania, no less than 100,000 men had dropped off from his ranks, and were either dead or sick, or had been taken prisoners by the Cossacks, or were straggling and marauding about the country.

On the 16th of August the two hostile armies met under the walls of Smolensk. But the Russians, after carrying off or destroying the provisions, and allowing time to the inhabitants to remove themselves, evacuated Smolensk, which their rear-guard set on fire. They continued their retreat upon Moscow, and Napoleon followed them. The battle of Borodino, near the banks of the river Moskwa, was fought on the 7th of September. The two armies were nearly equal in numbers, 120,000 each. After a dreadful slaughter on both sides, the Russian general sounded a retreat, and the French were left in possession of the bloody field; but the French took hardly any prisoners or guns: 15,000 Russians and about 10,000 Frenchmen lay dead. Next day the Russian army continued its retreat; and on the 14th of September it traversed the city of Moscow, which most of the inhabitants had already evacuated. On that same day the French entered Moscow, and found it deserted, except by the convicts and some of the lowest class, who lingered behind for the sake of plunder. On the evening of this day a fire broke out in the Coachmakers' street, but it was put down in the night. On the next day, the 15th, Napoleon took up his residence in the Kremlin, the ancient palace of the Tzars. On the following night the fire burst out again in different quarters of the city, and no exertions of the French could stop it: the wind spread the flames all over the city, and on the third day Napoleon was obliged to leave the Kremlin, where he was in imminent danger. The fire raged till the 19th, when it abated, after destroying 7682 houses, about four-fifths of the town. This burning of Moscow has been attributed to a premeditated plan of the Russians; but Count Rostopchin, the governor, has denied this positively. 'Several individuals,' he says, 'set fire to their own houses, rather than leave them in possession of the invaders, and the French soldiers seeking for plunder, or for wine or spirits in the cellars, where they got intoxicated, did the rest.' (*La Vérité sur l'Incendie de Moscow*, par le Comte Rostopchin, Paris, 1823.)

The markets of Moscow used to be supplied, not from the immediate neighbourhood, but from a considerable distance in the interior, and especially from the southern districts towards Kaluga, where the Russian army was now posted. The French therefore could get no provisions, and they were obliged to live chiefly on the flesh of their horses, which was salted down.

Napoleon remained among the ruins of Moscow for five weeks. He had sent Lauriston to the Russian head-quarters with a letter for the Emperor Alexander; the letter was forwarded to Petersburg, but no answer was returned. Napoleon was deceived in his calculations upon the temper of Alexander, and of the Russian people. At last, on the 19th of October, seeing no chance of making peace, Napoleon began his retreat. The weather was fine and moderately cold. He attempted first to retire by Kaluga, where he expected to find provisions; but the stout resistance which he experienced at Malo Yaroslavetz induced him reluctantly to turn again to the road by Vereia and Viazma to Smolensk, by which he had advanced. He was closely followed by the Russian army, but was more especially harassed by swarms of Cossacks under the Hetman Platoff. His rear divisions had sharp engagements at Viasma and at the passage of the Wop. (*Gl' Italiani in Russia.*) His army rapidly dwindled away, through fatigue, privations, and the constant attacks of the Cossacks. It had left Moscow 120,000 strong, but was now reduced to one-half that number of fighting men: the rest formed a confused and disorderly mass in the rear, with an immense train of baggage and artillery. In this condition they were overtaken on the 6th of November by the Russian winter, which in that year set in earlier than usual. The emaciated frames of the soldiers and horses could not resist this fresh enemy, and they dropped by thousands on the road, where they were soon buried under the snow. The bitter frosty nights killed thousands more; but the winter only completed the destruction of the army which had begun during the advance in the summer. The wretchedness and sufferings of the retreat from Moscow must be read in the works already referred to. The French at last reached Smolensk, where they found their stores. Many of the soldiers had not tasted a piece of bread or biscuit since they had passed through that town three months before. On the 14th of November Napoleon left Smolensk with about 40,000 men able to carry arms. His rear divisions had now to sustain repeated attacks from the Russians, and when he arrived at Orsa, in Lithuania, he had only 12,000 men with arms in their hands. Of 40,000 horses there were hardly 3000 left. In this plight he reached the banks of the Berezina, where he was joined by a corps of reserve of nearly 50,000 men, under Victor and Oudinot. The passage of the Berezina, on the 26th and 27th of November, cost him about one-half of his army thus reinforced. On the 3rd of December Napoleon arrived at Malodeczno, whence he issued the famous 29th bulletin, which came like a clap of thunder to awaken Europe. This time he told the whole truth in all its sternness: except the guards, he had no longer an army. At Smorgoni, where he arrived on the 5th of December, he took leave of his generals, left the command of the army, such as it was, to Murat, and set off in a sledge with Caulaincourt to return to Paris. He arrived at Warsaw on the 10th, where he had that curious conversation with De Prat which the latter has so humorously related. Continuing his route, he passed through Dresden on the 14th, and arrived at Paris on the 18th of December at *night*. The remains of his unfortunate army were collected by Murat on the line of the Vistula. The report of the chief of the staff, Berthier, dated the 16th of December, gives a dismal picture of the state of the troops after Napoleon left them:—'Plunder, insubordination, and disorganization have reached the highest pitch.' The loss of the French and their auxiliaries in this campaign is reckoned by Boutourlin at 125,000 slain, 132,000 dead of fatigue, hunger, disease and cold, and 193,000 prisoners, including 3,000 officers and 48 generals. The 'St. Petersburg Gazette' stated that the bodies burnt in the spring after the thaw, in Russia Proper and Lithuania, amounted to 308,000, of which of course a considerable proportion were Russians. In the Berezina alone, and the adjoining marshes, 36,000 dead bodies were said to have been found. The French left behind them 900 pieces of cannon and 25,000 waggons, cassoons, &c.

Napoleon, after his return to Paris, exerted himself to recruit his army by fresh conscriptions, by drafting the national guards into his skeleton battalions, by recalling all the men whom he could spare from Spain, and by sending the sailors of his fleet to serve on land. He thus collected again in Germany, in the spring of 1813, an army of 350,000 men. The King of Prussia had now allied himself to Alexander, and the allies had advanced as far as the Elbe. Austria remained neutral; she offered her mediation, but Napoleon would hear of no cession on his part, either in Germany, Italy, or Spain. He soon after repaired to Germany, where he fought and won the battle of Lutzen, 2nd May, 1813, against the Russians and Prussians united. On the 21st he attacked them again at Bautzen, and obliged them to retire. But these victories led to no decisive results; the allies retired in good order, and lost few prisoners and no guns. Bonaparte bitterly complained of this, and his generals observed to each other, that these were no longer the days of Marengo, Austerlitz, or Jena, when one battle decided the fate of the war. On the 22nd of May, in another engagement with the retreating allies, Duroc, his old and most faithful companion, who was one of the few personally attached to him, was struck by a cannon-ball and dreadfully mangled. The dying man was taken to the house of a clergyman near the spot. Napoleon went to see him, and was deeply affected. It was the only instance in which he refused to attend to the military reports which were brought to him. 'Everything to-morrow,' was his answer to his aides-de-camp. He had a few days before lost another of his old brother-officers, Bessières.

An armistice was now agreed to on the 4th of June, and Bonaparte returned to Dresden, where Metternich came with fresh offers of mediation on the part of Austria. Austria proposed, as a principal condition, that Germany should be evacuated by the French, and the boundaries of the French empire should be fixed at the Rhine, as Napoleon himself had repeatedly declared. But Napoleon would not hear of giving up the new departments which he had annexed as far as Hamburg and Lubeck, nor would he resign the Protectorate of Germany. This led to a warm discussion, in which Napoleon said he only wished Austria to remain neutral while he fought the Russians and Prussians, and he offered to restore to her the Illyrian provinces as the price of her neutrality. Metternich replied that things had come to that pass that Austria could no longer remain neutral; she must be either with France or against France; that Germany had been long enough tormented by these wars, and it was time she should be left to rest and to national independence. The conferences however were carried on at Prague, without any agreement being come to; and in the midst of this the armistice expired, on the 10th of August, and Austria joined the allies.

A series of battles were fought about Dresden on the 24th, 26th, and 27th of August, between the Austrians and Prussians on one side, and the French on the other, in which the latter had the advantage. But in pursuing the allies into Bohemia, Vandamme, with a corps of 30,000, was surrounded and made prisoner with 8000 men at Culm. Oudinot was likewise worsted at Gross Beeren by the Swedes and Prussians under Bernadotte. Ney, who was sent by Napoleon to replace Oudinot, lost the battle of Dennewitz, on the 6th of September, near Berlin. On the Katzbach, in Silesia, Blucher routed the French opposed to him. The month of September passed in this desultory warfare, Napoleon's armies losing ground and strength on every side. Bavaria made a separate peace with Austria. The Saxons and other German troops began to forsake the French cause. At last, after a painful struggle between pride and necessity, Napoleon was obliged to begin his retreat upon Leipzig, followed by the allies. At Leipzig he determined to make a final stand. 'One victory alone,' he said, 'and Germany might still be his.' On the 16th of October the first battle of Leipzig took place. It was fought gallantly on both sides, but the allies had now a great superiority in numbers, and the French were driven close upon the ramparts of the town. The 17th passed without fighting; on the 18th the battle was renewed, the French divisions lost ground, and a body of 10,000 Saxons left them and went over to the enemy. Napoleon now made his dispositions to effect his retreat towards the Rhine. But while his army was filing out of Leipzig by a long bridge, or rather a succession of bridges, in the morning of the 19th, the allies forced their way into the town after a desperate resistance, and the bridge being blown up, 25,000 Frenchmen were obliged to surrender prisoners of war. The retreat from Leipzig was nearly as disastrous to Napoleon as that from Moscow. His army was completely disorganized. He was however able to fight his way at Hanau, on the 30th of October, through the Bavarians, his late allies, who now wanted to oppose his passage. At last he reached the Rhine, and passing over the 70,000 or 80,000 men, all that remained out of an army of 350,000, with which he had begun the campaign, he placed them on the left bank while he set out for Paris, where he arrived on the 9th of November. (For the particulars of this hard-contested campaign of 1813, see Odeleben's narrative.) About 80,000 men left in the Prussian garrisons of Magdeburg, Danzig, Stettin, &c., surrendered to the allies.

The enormous losses and reverses of the French armies, and the approach of the allies to the frontiers of France, produced a strong feeling of dissatisfaction in that country. The legislative body showed for the first time a spirit of opposition to the headlong system of Napoleon. A committee was appointed to draw up a report on the state of the nation; Raynouard, Lainé, Gallois, and other members who had a character for independence, were of the committee. The report which they laid before the legislative body, on the 28th of December, 1813, expressed a desire for peace consistent with the honour and welfare of France, and a wish to know what steps the emperor had taken to attain so desirable an object; and it ended by saying, that 'while the government will take the most effective measures for the safety of the country, his majesty should be entreated to maintain and enforce the entire and constant execution of the laws which ensure to the French citizens the rights of liberty, property, and security, and to the nation the free exercise of its political rights.' The legislative body by a large majority ordered the report to be printed. This was a language which Napoleon had not been used to. He immediately ordered the doors of the hall of the legislative body to be closed and guarded by soldiers, and the copies of the report to be seized at the printer's. On the 31st an imperial decree adjourned the legislative body. On the 1st of January, 1814, several members of the legislative body having appeared at his levee, he gave vent to his ill humour in a violent and coarse address; told them that they were not the representatives of the nation, but only the representatives of the individual departments; that he was the only representative of the people; that their report and the address founded upon it were seditious; that they ought not thus publicly to have commented on his conduct; and he ended by saying—'France stands more in need of me than I stand in need of France.' The senate, more subservient, had already passed a decree for a new conscription of 300,000 men, including all those who had escaped the conscriptions of former years. The taxes were at the same time ordered to be doubled; but the people were weary of these never-ending sacrifices, and in many departments it was found difficult to collect either men or money. Napoleon's disposable army on the Rhine amounted to no more than 70,000 or 80,000 men, and he had to contend with twice that number, besides numerous reinforcements which were hastening through Germany. Meantime conferences were held at Châtillon, in which the allies proposed to fix the limits of France as they were in 1792, that is to say, with the exclusion of Belgium; but Napoleon would not listen to this. It was his last chance of peace. At the end of January 1814, Napoleon began the campaign which has been considered by tacticians as that in which he most strikingly displayed his astonishing genius for military combinations, fertility of resources, and quickness of movements. For more than two months he held at bay the various armies of the allies, now beating one corps and then flying to attack another; at times severely checked himself, and yet recovering his strength the next day. (*Memoirs of the Operations of the Allied Armies in 1813-1814*, London, 1822; and Koch, *Mémoires pour servir à l'Histoire de la Campagne de 1814*.) But the odds were too many against him. By a bold movement he placed himself in the rear of the allies, but the allies marched upon Paris, and after a hard-fought battle, on the 30th of March, took possession of the whole line of defence which protected that city on the north-eastern side. The empress had left it for Blois, and Joseph Bonaparte, after the battle of the 30th, quitted Paris also. Marshal Marmont asked for an armistice, and this led to the capitulation of Paris, which the Emperor Alexander and the King of Prussia entered on the 31st, amidst the loud acclamations of the Parisians. Napoleon hearing of the attack upon Paris, had fallen back to the relief of the capital, but it was too late. He met near Fontainebleau the columns of the garrison, which were evacuating the city. His own generals told him that he ought now to abdicate, as the allied sovereigns had declared that they would no longer treat with him. A decree of the senate also declared that Napoleon Bonaparte, in consequence of sundry arbitrary acts and violations of the constitution (which were specified and classed under various heads in the preamble to the decree), and by his refusing to treat with the allies upon honourable conditions, had forfeited the throne and the right of inheritance established in his family, and that the people and the army of France were freed from their oath of allegiance to him. A provisional government was formed, consisting of Talleyrand, Bournonville, Dalberg, and others. Upon this, Bonaparte, after much reluctance, and upon his generals refusing to join him in a last desperate attempt upon Paris, which he meditated, signed the act of abdication at Fontainebleau on the 4th of April, 1814. In this first act there was a reservation in favour of the rights of the empress and of his son. By a second act however he 'renounced unconditionally' for himself and his heirs the throne of France and Italy. The Emperor Alexander proposed that he should retain the title of emperor with the sovereignty of the island of Elba, and a revenue of six millions of francs to be paid by France. This was agreed to by Prussia and Austria; and England, though no party to the treaty, afterwards acceded to it. On the 20th of April, Napoleon, after taking an affectionate leave of his generals and his guards, left Fontainebleau for Elba. He ran some danger from the populace in passing through Provence, but arrived safe at Frejus, where he embarked on board the British frigate the Undaunted, and on the 4th of May landed at Porto Ferrajo, in the island of Elba. (See, for the history of all these transactions in France, Baron Fain, *Manuscrit de* 1814. See also the *Narrative of Napoleon Bonaparte's Journey from Fontainebleau to Frejus in April* 1814, by Count Truchses Waldburg, attendant Prussian commissary.) Napoleon's interview on the road with Augereau, who had issued an abusive proclamation against him, and other curious particulars concerning Napoleon's conduct on his journey, are contained in the latter work.

Napoleon remained in the island of Elba about ten months. At first he seemed reconciled to his lot: he set about making roads, and improving the fortifications; but after some months he was observed to become more reserved, gloomy, and frequently absent and lost in thought. He was, in fact, at the time, engaged in secret correspondence with his friends in France and Italy. During so many years of supreme power, attended by most splendid success, he had formed, of course, many adherents; men whose fortune was dependent on his, and most of whom had lost their emoluments and prospects by his fall. The bold and aspiring, the reckless and restless, saw no further prospect of conquest and new organization of foreign states, which left at Napoleon's disposal thousands of offices and situations with which to reward his partisans. The old soldiers, to whom the camp had become a home, regretted him who used to lead them from victory to victory, affording them free quarters, a continual change of scenery, and pleasant cantonments in the finest cities of Europe. His brothers, sisters, and other relatives, all rich, and some still powerful, as Murat at Naples, felt that by his fall they had lost the main prop of their family. On the other side, the restored Bourbons had committed faults, and had listened perhaps too much to the old emigrants by whom they were surrounded; and lastly, France in general had been too long in a state of violent excitement to subside at once into quiet and constitutional repose. Many of the subordinate agents of the police, post-offices, and other departments, were in Napoleon's interest. A wide conspiracy was formed, the old republicans joined the Bonapartists, and Napoleon was invited to return to France. (See, in Fleury de Chabulon's *History of the 100 Days*, an account of the intrigues carried on with Elba.)

On the 26th of February, 1815, Napoleon embarked with about 1000 men of his old guards, who had followed him to Elba, and landed on the 1st of March, at Cannes, not far from Frejus. At Grenoble the first defection of the army took place: Colonel Labedoyère, commanding the 7th regiment of the line, joined Napoleon; the rest of the march to Paris was a triumphant one. The Bourbons were abandoned by the whole army. Marshal Ney, who was sent by Louis XVIII. to stop Napoleon's progress, went over to him; but Macdonald and Marmont, and several other Marshals, remained faithful to the oath they had taken to the king. Augereau also kept aloof from Napoleon; but the Bourbons had no troops on which they could depend. Napoleon arrived at the Tuileries on the 20th of March, Louis XVIII. having left the capital early in the morning by the road to Flanders. Napoleon's return to Paris was accompanied with the acclamations of the military, and the lower classes in the suburbs; but the great body of the citizens looked on astounded and silent: he was recalled by a party, but evidently not by the body of the nation.

The Congress of Vienna was still sitting, when Talleyrand laid before them the news of Bonaparte's landing at Cannes. They immediately agreed to join again their forces, in order to frustrate his attempt, and to maintain entire the execution of the treaty of Paris, of the 30th of May, 1814, made with France under the constitutional monarchy of the Bourbon dynasty. The Austrian, Russian, and Prussian armies, which had evacuated France, resumed their march towards the frontiers of that country.

Napoleon found, on his return to Paris, that he could not resume the unlimited authority which he had before his abdication. The republicans and constitutionalists who had assisted, or not opposed his return, with Carnot, Fouché, Benjamin Constant, and his own brother Lucien at their head, would support him only on condition of his reigning as a constitutional sovereign: he therefore proclaimed a constitution under the title of 'Acte additionnel aux Constitutions de l'Empire,' which greatly resembled the charter granted by Louis XVIII. the year before. There were to be an hereditary chamber of Peers appointed by the emperor, a chamber of representatives elected by the electoral colleges, and to be renewed every five years, by which all taxes were to be voted; ministers were to be responsible, judges irremovable; the right of petition was acknowledged, and property was declared inviolable. Lastly, the French nation was made to declare that they wo[illegible] recall the Bourbons; deputies from the departments came to Paris to swear to the additional act, at the Champ de Mai, as it was called, although held on the 1st of June. The Emperor and his brothers were present at the ceremony.

The chambers opened on the 4th of June, while Napoleon prepared to march towards the frontiers of Flanders, where the allied English and Prussian armies were gathering. [illegible] assembled an army of about 125,000 men, chiefly old troops, of whom 25,000 were cavalry, and 350 pieces of cannon, with which he advanced upon Charleroi, on the 15th of June. Ney, Soult, and Grouchy held commands under Napoleon. On the 16th Napoleon attacked in person Marshal Blucher, who was posted with 80,000 men at Ligny, and drove him back with great loss. At the same time he sent Ney against part of the English army at Quatre Bras, which, after sustaining a severe attack, retained possession of the field. In the morning of the 17th, the Duke of Wellington, in consequence of Blucher's retreat, fell back with his army to the position of Waterloo. Napoleon followed him, after despatching, on the 17th, Grouchy, with a body of 30,000 men, to follow the retreat of the Prussians. (Grouchy's *Observations sur la Relation de la Campagne de* 1815, *par le Général Gourgaud*, Philadelphia, 1818.) On the 18th the famous battle of Waterloo took place. Napoleon's army on the field was about 75,000: Wellington's force opposed to him consisted of 54,000 men actually engaged at Waterloo, the rest, about 16,000, being stationed near Halle, and covering the approach to Brussels on that side. There were 32,000 British soldiers, including the German Legion; the rest was composed of Belgians, Dutch, and Nassau troops. The events of the battle are well known. The French made several furious attacks with infantry and cavalry upon the British line, gained some advantages, and took possession of La Haye Sainte, but all the efforts of their cavalry could not break the British squares. In these repeated attacks, the French cavalry was nearly destroyed. At six o'clock Bulow's Prussion corps appeared on the field of battle, and soon after Blucher came in person with two more corps. Napoleon now made a last desperate effort to break the English line, before the Prussians could act: he directed his guard, which had not yet taken part in the action, to advance in two columns against the English. They were received with a tremendous fire of artillery and musketry; they attempted to deploy, but in so doing became confused, and at last gave way. Napoleon, who was following with his eye, through a spy-glass, the motions of his favourite guards, turned pale and exclaimed, 'They are mixed together!' and galloped off the field. (See and compare the various accounts of the battle of Waterloo, by English, French, and Prussian military writers: among the rest, Captain Pringle of the Engineers; Captain Batty; Baron Muffling, under the assumed initials of C. de W., *Histoire de la Campagne de l'Armée Anglaise et de l'Armée Prussienne en* 1815, Stuttgart, 1817; Gourgaud's *Narrative of the War of* 1815, with Grouchy's important comments upon it; Foy, *Campagne de* 1815; Napoleon's own account in Montholon and Las Cases, and in the *Mémoires Historiques*, published by O'Meara; Ney's *Letter to the Duke of Otranto*, Paris, 1815; Rogniat's account of the battle, and the account in Sir W. Scott's Life of Napoleon.)

The French accounts are evidently inaccurate as to several circumstances of the battle. One thing is certain, that Napoleon attacked the English repeatedly, with all his force, and was repulsed, with the loss of the flower of his troops: that after the last attack by his guards, at seven in the evening, which also failed, he had no reserve left; and the arrival of Blucher with fresh troops on the field of battle, changed the repulse into a total defeat. The astonishing firmness of the British infantry (to which several French generals, and Foy among the rest, have paid an eloquent tribute of praise) gained the day; Bonaparte's army fled in dreadful confusion, pursued by the Prussians, and lost cannon, baggage, and all. The loss of the English was 15,000 men in killed and wounded. On the same day Grouchy was engaged at Wavre, thirteen miles distant, with one division of the Prussian army, which gave him full employment, while the other Prussian divisions were marching to Waterloo. His orders were to follow the Prussians, and attack them wherever he met them. (Grouchy's *Observations*.) [illegible] seems to have underrated the strength of the Prussians, when he thought Grouchy's [illegible] to keep [illegible] the whole of their army.

The battle of Waterloo finally closed a war, or rather a succession of wars, which had lasted with little interruption for twenty-three years, beginning with 1792. As to these wars, Napoleon is only strictly accountable for those which took place after he had attained supreme power in France: in some of them, such as those of Spain and of Russia, he was decidedly the aggressor. Whether he did not likewise give sufficient provocation to those which Austria, England, and Prussia waged against him, the reader must judge for himself. His determination to be the dictator, the umpire of all Europe, left no chance of national independence to any country; if he had subjected all Europe, he would have reverted to his old scheme of the conquest of the East. Even his peace establishment, supposing him ever to have been at peace, was to consist of an army of 800,000 men, besides 400,000 of reserve. (Montholon's *Memoirs of Napoleon*, vol. i.) During the ten years of the empire, he raised by conscription two millions one hundred and seventy-three thousand men, of whom two-thirds, at the least, perished in foreign lands, or were maimed for life. See the *Memoirs* of Larrey, one of the chief surgeons of his army, on this frightful waste of human life.

After the defeat of Waterloo, Napoleon, having given his brother Jerome directions to rally the remains of the army, hurried back to Paris. The house of representatives declared itself permanent, and demanded his abdication. Lucien appeared before the house, and spoke eloquently of the former services of his brother, and of the claims which he had on the gratitude of France. 'We have followed your brother (answered Lafayette) over the sands of Africa, and through the frozen deserts of Russia; the whitened bones of Frenchmen scattered over every part of the globe bear witness to our long fidelity to him.' Lucien made no impression on the assembly. He advised his brother to dissolve the chamber, Napoleon refused: it would be the signal,' he said, 'of civil war.' The house of peers had adopted the same views as the lower house. There was but one man, it was openly stated, between France and peace. Napoleon signed his second abdication on the 22nd of June; but this time it was of his own accord, and against the advice of his intimate friends, Carnot, Lucien, and others. (*Réponse de Lucien aux Mémoires de Lamarque*.) The abdication was in favour of his son, Napoleon II. A provisional government was appointed by the chambers, and they required that Napoleon should leave France, and embark at Rochefort for the United States. General Becker was appointed to escort him to Rochefort, where he arrived on the 3rd of July. All this did not take place, however, without many violent altercations in the chambers, and much reluctance on the part of Napoleon; for which, see Hobhouse's *Letters from Paris during the last Reign of Napoleon*, and Chabulon's *History of the 100 Days*. The allies, who entered Paris on the 7th of July, refused to acknowledge Napoleon's right to abdicate in favour of his son, and on the following day Louis XVIII. re-entered the capital, and resumed the government.

Napoleon at Rochefort, seeing that the whole country around him was submitting to the Bourbons, and finding that he had no chance of escaping by sea, through the vigilance of the English cruisers stationed along the coast, sent Count Las Cases and Savary to Captain Maitland, who commanded the English ship Bellerophon, to ask for leave to proceed to America, either in a French or a neutral vessel. Captain Maitland replied, 'That his instructions forbade this, but that if Napoleon chose to proceed to England, he would take him there on board the Bellerophon, without, however, entering into any promise as to the reception he might meet with there, as he was in total ignorance of the intentions of the British government as to his future disposal.' (Captain Maitland's statement of the whole transaction.) This offer was made by Captain Maitland, in his second interview with Las Cases, on the 14th of July; and Napoleon had already, the day before, written a letter, addressed to the Prince Regent of England, saying that 'he came, like Themistocles, to claim the hospitality of the British people and the protection of its laws.' Captain Maitland offered to despatch General Gourgaud to England with this letter immediately, repeating at the same time to him 'that he was not authorised to stipulate as to the reception of Bonaparte in England, where he must consider himself at the disposal of the Prince Regent.' On the 15th Napoleon left Rochefort and came on board the Bellerophon with his suite: as Captain Maitland advanced to meet him on the quarter-deck, Napoleon said to him, 'I come to place myself under the protection of your prince and your laws.' On the 24th the ship entered Torbay. On the 31st of of July, Admiral Lord Keith and Sir Henry Bunbury, under secretary of state, came on board the Bellerophon, to announce to him the final resolution of the British government,—that the Island of St. Helena should be his future residence. Napoleon protested against this determination, said he was not a prisoner of war, that he had come as a voluntary passenger on board the Bellerophon, that he wished to be allowed to remain in England as a private citizen. On the 6th of August however Napoleon frankly acknowledged to Captain Maitland, that 'he had certainly made no conditions on coming on board the Bellerophon, that he had only claimed hospitality, and that he had no reason to complain of the Captain's conduct, which had been that of a man of honour.' On the 7th Napoleon removed from the Bellerophon to the Northumberland, Sir George Cockburn's flag ship, which was appointed to carry him to St. Helena. (For the particulars of Bonaparte's voyage, his landing at St. Helena, his residence, first at Briars and afterwards at Longwood—of his altercations, first with Sir G. Cockburn, and afterwards with Sir Hudson Lowe, we must refer our readers to the minute work of Count Las Cases.) He landed at St. Helena on the 16th of October, 1815.

By a convention signed at Paris on the 20th of August, 1815, between Great Britain, Austria, Russia, and Prussia, the custody of Napoleon's person was intrusted to the British government, and commissioners were appointed by Russia, Austria, and France, to reside at St Helena to look after his safe detention In July 1816, General Sir Hudson Lowe arrived at St. Helena as governor of the island From the very first interview Bonaparte behaved uncivilly, or rather insultingly, to that officer, and this treatment was repeated with aggravation at every subsequent opportunity One of Napoleon's great grievances was being styled General Bonaparte, another, his not being allowed to stroll about the island unattended by a British officer. He was allowed a space measuring eight and afterwards twelve miles in circumference round Longwood, through which he might range at his pleasure, beyond these limits he was to be accompanied by an officer But the real grievance was that of being detained as a prisoner at all The governor however had no power to remedy these subjects of complaint Various minor matters of dispute with the governor were laid hold of by Bonaparte and his attendants, as if with the view of keeping alive an interest in the public mind in favour of the exile of St. Helena. We cannot enter into the particulars of this petty system of warfare, in which, as it generally happens, both parties may have occasionally been in the wrong. But it is impossible to read even Napoleon's statements, made through Las Cases, Santini, Antommarchi, and others, without perceiving that there was a determination on his part not to be pleased with anything that the governor could do for him, unless he had disobeyed his orders. Napoleon's mind was in a state of irritation whenever he recurred to the subject of his confinement, which made him querulous and peevish. He seems also to have had, almost to the last, some latent hope of making his escape. In other respects the particulars of his life and conversations at St. Helena are highly interesting. He could be very agreeable towards visitors who were admitted to pay their respects to him, as we may see from Mr. Ellis's and Captain Hall's accounts of their interviews with him. [illegible] Napoleon's health began to be visibly [illegible] take no medicines. He also refused to [illegible] because he would not submit to the [illegible] officer. In September 1819, Dr. Antommarchi, of the University of Pisa, came to St. Helena as physician to Napoleon. Two clergymen came also from Italy to act as his chaplains. Towards the end of 1820 he grew worse, and remained in a weak state until the following April, when the disease assumed an alarming character. It was then that Bonaparte said that he believed it was the same disorder which killed his father, namely, a scirrhus in the pylorus; and he desired Dr. Antommarchi to examine his stomach after his death. He made his will, leaving large bequests to his friends and attendants (*Testament de Napoleon*), and on the 3rd of May, 1821, the chaplain Vignali administered to him extreme unction. Napoleon stated 'that he believed in God, and was of the religion of his father: that he was born a Catholic, and would fulfil all the duties of the Catholic church.' On the 5th of May, after being some time delirious, he breathed his last about eleven minutes before six o'clock in the evening. The following day the body was opened by Dr. Antommarchi, in presence of several British staff and medical officers, when a large ulcer was found to occupy the greater part of the stomach. [illegible] 8th of May his remains were interred with military [illegible] Slane's Valley, near a fountain overhung by weeping [illegible] This had been a favourite spot with Napoleon. The procession was followed to the grave by the governor, the admiral, Napoleon's attendants, and all the civil and military authorities. The grave was afterwards enclosed by a railing, and a sentry was kept on duty to guard the spot.

For the acts of Napoleon's internal administration, see *Bulletin des Lois de l'Empire* and the *Exposés* of his ministers; for the state of the finances, see the various *Comptes rendus*, or report of the Duke of Gaeta (Gaudin), and also Bresson, *Histoire Financière de France*; for the military institutions and organization of the army, see *Tableau Politique et Militaire*, which precedes Foy's History of the Peninsular War. Also *Mémoires sur l'Empire*, by Thibaudeau, which is a continuation of his 'Memoirs on the Consulate;' the Duchess of Abrantes' *Mémoires*, and the numerous Memoirs of Napoleon's generals and ministers.

NAPOLEON FRANÇOIS, the only son of Napoleon, after his father's first abdication in 1814, went with his mother to Vienna, where he was brought up at the court of his grandfather, the Emperor Francis, who made him Duke of Reichstadt. His education was carefully attended to, and he was early trained up to the military profession. After passing through the various subordinate grades he was made a lieutenant-colonel in June 1831, and he took the command of a battalion of Hungarian infantry then in garrison at Vienna. He was extremely assiduous in his military duties, but his constitution was weak, he had grown very tall and slender, and symptoms of a consumptive habit had early shown themselves His physician advised a removal to Schonbrunn, which had at first a beneficial effect, but a relapse soon followed; and after lingering for several months, young Napoleon died on the 22nd of July, 1832, in the palace of Schonbrunn, attended by his mother, who had come from Parma to visit him He seems to have been generally regretted at the Austrian court, especially by his grandfather, the emperor, who had always behaved to him with paternal kindness. There is an interesting account of this young man's short career by M. de Mo[illegible] *Le Duc de Reichstadt*, Paris, 1832.

In the first sentence of Napoleon's will, written only a few days before his death, he says:—'It is my wish that my ashes may repose on the banks of the Seine, and in the midst of the French people, whom I have loved so well.' During the Restoration no steps were taken towards fulfilling the Emperor's last request, but after the Revolution of July (1830), when the statue of Napoleon was once [illegible] on the column in the Place Vendôme and the [illegible] of the Empire were [illegible] proscribed, the [illegible] came to a [illegible] upon [illegible] the propriety of applying [illegible] his remains. [illegible] until M. Thiers became prime minister that steps were taken to carry the resolution of the Chamber into effect. In reply to the application of M. Thiers, Lord Palmerston said---'The government of her Britannic Majesty hopes that the promptness of its answer may be considered in France as a proof of its desire to blot out the last trace of those national animosities which, during the life of the Emperor, armed England and France against each other. The British government hopes that if such sentiments survive anywhere, they may be buried in the tomb about to receive the remains of Napoleon.'

On the 13th of May, 1840, the French Chamber was officially acquainted with the result of these negotiations, by the Minister of the Interior, who announced that Louis-Philippe had ordered his son, the Prince de Joinville, to proceed to St. Helena. A grant of a million francs (£40,000) was proposed to the Chamber by the government to defray the cost of the expedition and other expenses connected with the removal of the Emperor's remains. A proposition to increase the grant to two million francs and one to extend it to five millions were rejected in favour of the original sum. On the 7th of July, La Belle Poule and La Favorite frigates sailed from Toulon, and on the 8th of October they reached St. Helena. The exhumation was commenced at midnight on the 15th of the same month, and after nine hours of hard labour the coffin was reached, and being opened the body of the Emperor was found in a singular state of preservation. It had not been embalmed, but the dryness of the spot and the care with which the grave had been closed had prevented all decay. The lineaments of the pallid countenance were still preserved, and the small hands retained their whiteness. A procession of the civil and military authorities of the island accompanied the body to the shore, where it was given into the hands of the Prince de Joinville. On the 18th the frigates weighed anchor, and on the 30th of November arrived in Cherbourg roads.

On the 8th of December the sarcophagus containing the remains was transferred from the frigate to the Normandie steamboat, which proceeded up the Seine. Before arriving at Rouen, the coffin was placed on board a funeral barge constructed for the purpose, and was towed up the Seine by a small steam-boat. As the procession moved slowly up the river, all the population of Rouen and the civil and military authorities of the city were assembled on the quays to witness the spectacle; and the remainder of the voyage was marked by popular demonstrations of a similar nature, the smallest villages exhibiting some proof or other of the general feeling which hailed the return of Napoleon to the soil of France. On the night of the 14th of December the flotilla (which consisted of several vessels, and was accompanied by the Prince de Joinville and the seamen of La Belle Poule) reached Courbevoie, a short distance from Paris.

The morning of the 15th opened gloomily, but the sun afterwards broke forth, gleaming on the arms and banners of the military and the national guard of Paris and the vicinity, who were collected in great force. The whole population of Paris and the surrounding places flocked towards the barrier of Neuilly and Courbevoie, to participate in a scene so full of striking recollections. At eleven o'clock the body was removed from the steam-boat to a Grecian temple erected for its reception, and soon after the train was in motion. It proceeded slowly, the immense funeral car being drawn by sixteen horses. The remains of the emperor were placed on the top of this catafalque, which was ornamented with white plumes and various devices and gorgeous emblazonments; the drapery consisted of a splendid mantle of violet velvet. Before the car were carried eighty-six eagles, emblematic of the eighty-six departments of France. Marshals and generals, attended by brilliant staffs, and the principal functionaries in the various departments of the government, joined the procession, which included the Prince de Joinville and the crew of La Belle Poule.

Among the assemblage were many of Napoleon's old soldiers. Here were the men who had fought on the great battle-fields of the Revolutionary war, on the Rhine, in Italy, under the Pyramids, and from Vienna to Madrid and Moscow. They had entered all the great capitals of Continental Europe. It was a striking and impressive spectacle to behold these relics of the imperial guard, the Mamelukes of the guard, the Polish lancers of the guard, and most of the other 'arms' so celebrated in the campaigns of the republic, the consulate, and the empire.

The procession halted for a time beneath the Triumphal Arch at the barrier of Neuilly; then passing along the Champs Elysées it entered the Place de la Concorde, turning to the right towards the Hôtel des Invalides. The coffin, which was borne as on landing at Courbevoie by the seamen of La Belle Poule, was carried to the entrance of the church, into which it was carried by thirty-two non-commissioned officers: the coffin was covered with a funeral pall, and the imperial crown was placed upon it. The remains were received by a large body of the clergy, headed by the archbishop of Paris. The king and royal family, with the most distinguished persons in France, were seated in the places provided for them. As the procession advanced, the roll of drums and the thunder of artillery were heard, and the military bands performed solemn dirges for the dead. The archbishop and the clergy recited the prayers for the occasion. Louis-Philippe, surrounded by the great officers of the state, formally received the body, and commanded General Bertrand to place the sword and hat of the emperor on the coffin. The ceremony concluded by the performance of a grand mass.

Napoleon's last place of rest is not inappropriately in the soldiers' asylum---the Chelsea Hospital of France.

RAILWAYS.

By JOHN TATAM STANESBY.

[illegible]

[illegible]

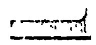
[illegible] owing to the absence of a guiding flange [illegible] [illegible] incompatible with some of the most [illegible] qualities of a railway. Various plans have been [illegible] for combining the smoothness of a railway with the [illegible] of a common road, and of these perhaps none [illegible] than that patented by Mr. Woodhouse, in [illegible] which, by [illegible] arrangement, rails of [illegible] [illegible] are imbedded in [illegible] Fig. [illegible] [illegible]

[illegible]

Woodhouse's rail in form, and are frequently made use of as wheel-tracks by drivers, notwithstanding the inconvenience arising from their being confined to one side of the vehicle.

Shortly after the experiment at Colebrook Dale, cast-iron rails with an upright flange, as shown in section in *fig.* 4, were brought into use. They were first used, it is believed, at the colliery of the Duke of Norfolk, near Sheffield, in 1776. Originally they were fixed upon cross sleepers of wood, like those used to support wooden rails. They were cast with holes for nails, and laid down so that both the flanges were towards the middle of the track, or *vice versâ*. Thus, as explained by *fig.* 5, which represents an end section of the two rails fixed to a sleeper, with a pair of wheels on them, one flange on each rail is sufficient to prevent carriages from running off.

Fig. 4.



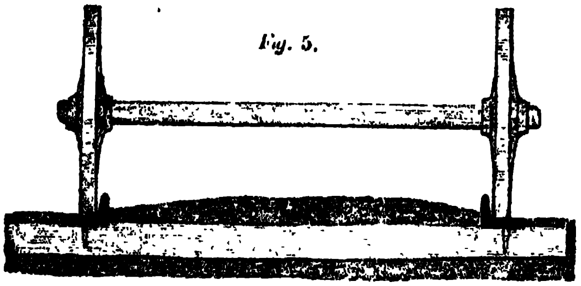
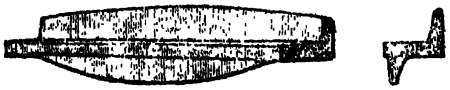


Fig. 5.

About the year 1793 blocks of stone were introduced as supports, instead of the wooden sleepers. They were, in the early railways, about a foot square, and eight or nine inches deep. One of these blocks is imbedded in the road under each joint in the rails, which are spiked down to wooden plugs inserted in the stone. As the foundation made by stone blocks is firmer than that of wooden sleepers, they were quickly introduced in most cases where a durable road was required.

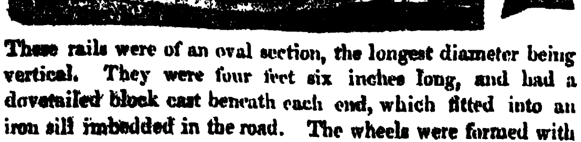
Many ingenious improvements have been made upon the kind of railway just described, which is still extensively used in mining districts. It is, for distinction, called the *plate-railway* or *tramroad*, and is very convenient from the facility of its construction, and the circumstance that vehicles adapted for use upon it can also be used off the rails. The form of the rail is however a weak one, considering the quantity of iron used; and it permits the lodgment of stones and dirt. The former of these inconveniences has been in some degree remedied by the use of a rail with an under rib, as shown in *fig.* 6, a form which was adopted to reduce the cost of repairs on the Surrey tramroad.

Fig. 6.



The serious disadvantages of the plate-railway led to the use of edge-rails, which have now almost entirely superseded the previous form. The first edge-railway of any considerable extent was completed in 1801, for the conveyance of slate from the quarries of Lord Penrhyn. Its construction is illustrated by *fig.* 7, which represents the two rails, and the form given to the tire of the wheels in order to keep them in the right course.

Fig. 7.



These rails were of an oval section, the longest diameter being vertical. They were four feet six inches long, and had a dovetailed block cast beneath each end, which fitted into an iron sill imbedded in the road. The wheels were formed with a grooved tire, fitting loosely on the rail. It was found however that in course of time the groove became so deepened by wear as to fit the rail tightly, and thereby produce much friction. To remedy this, Mr. Wyatt, the inventor, introduced a rail and wheel formed as shown at *b. fig.* 7, in which the bearing surface of the rail and the corresponding part of the wheel were flat. The rails being laid only two feet apart, the carriages were necessarily small, and the friction considerable; yet the saving of power effected was such that two horses regularly drew a train of twenty-four waggons, each containing about a ton.

Edge-rails were adopted extensively by the coal-owners of Northumberland and Durham, within a few years after the successful experiment at Penrhyn. The form of rail most generally adopted was even better calculated to economise the strength of the iron than that of Mr. Wyatt. The following figures represent a mode of construction introduced early in the present century, and which is still used for colliery railways. The rails are cast in lengths of three or four feet, and their greatest sectional dimension is in the depth. They are made of what is called a fish-bellied form, the lower edge being curved so as to give the rail greater depth in the centre than at the ends or points of support. *a, fig.* 8, represents the cross section of the rail in the middle, and *b* at the end. The ends are so made as to form a half-lap joint (*fig.* 9), and they fit into a suitable cavity in a cast-iron pedestal or chair, which is spiked down to the ordinary stone blocks or wooden sleepers. A side view of the rail with two chairs is given at *c, fig.* 8, and the upper part of the figure is a section of the railway as completed, showing also the form of wheel employed. In this plan the protecting flange is upon the wheel instead of the rail. By this arrangement the flange may be made much smaller than that of a tram-plate, and the friction is usually still further diminished by giving a slightly conical form to the wheel-tires, so that the flanges are rarely brought into actual contact with the rails.

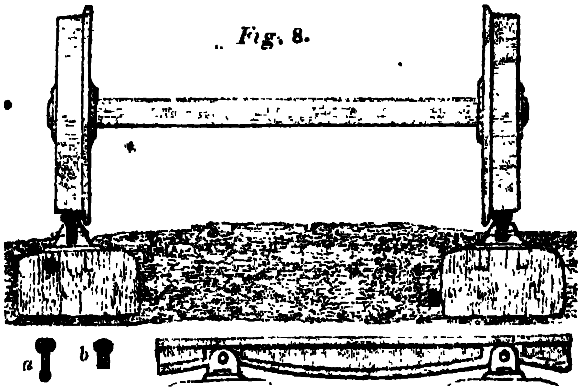
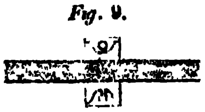


Fig. 8.

Fig. 9.



Although the principle of construction here given is that most commonly followed, the details vary so much that hardly any two railways are alike. The sectional forms of edge-rails, though very various, generally resemble that here represented; and the fish-bellied profile has been selected as having been formerly the most usual; although *parallel* rails, or those of equal depth throughout, were also much used in the earlier railways. The form of the chairs or pedestals, and the method of securing the rails to them, are also very variable. In *figs.* 8 and 9 the rails are represented as having half-lap joints, the two ends being placed together between the cheeks of the chair, and fastened by a pin driven through the whole. Sometimes the ends of the rails are made square, abutting against one another in the chair, and secured by a separate pin through each rail. Since the general introduction of locomotive engines, the use of pins has been abandoned, as they have a tendency to work loose; and wedges or keys, which may be tightened when necessary, have been applied in different ways in their stead. In some cases edge-rails have been cast with a pedestal attached to one end, fitted to receive the opposite end of the adjoining rail.

The introduction of malleable iron as a material for rails is an improvement which may perhaps be considered to have done more than any other in preparing railroads for becoming the principal highways of a commercial country. From the commencement of the use of iron railways much inconvenience was caused by the frequent breakage of the rails, especially those of the tram-plate form. The brittleness of cast-iron rendered it necessary that the rails should be made much stronger than sufficient to bear ordinary loads, that they might be able to resist accidental strains and shocks; but although many of the earlier railways were relaid with heavier rails than were originally supposed needful, breakages were of very common occurrence. So long as the travelling was restricted to a low rate of speed, the accidents and delays thus occasioned were of minor importance, but the difficulty of guarding against them would no doubt have greatly retarded the use of railways for the conveyance of passengers, if an adequate remedy had not been provided before the experiment was made. Bars of malleable iron were laid down as rails to a limited extent in or before 1808, and some engineers advocated their use, notwithstanding the inconvenience arising from their unsuitable form; no machinery being then used by which they could be made economically in any other than a square or flat form. The desire to introduce a more durable rail led also to experiments on the combination of wrought and cast iron; but these and all similar contrivances were superseded in 1820 by Mr. Birkenshaw's invention of an efficient and cheap method of rolling iron bars suitable for rails and other purposes. The fibrous texture of wrought-iron makes it far less likely to break when subjected to concussion than cast-iron, and the sectional form used is such as to render bending improbable. Malleable rails, when in use, do not rust to any material extent, while the same rails, if lying on the ground beside the track, rapidly waste away. It is also an important advantage of malleable rails that they effect a reduction in the number of joints: they are usually made fifteen feet long, while the brittleness of cast rails rendered it unsafe to have them more than three or four feet, the space between two points of support. Originally the long wrought rails were confined to the parallel form, but they are now, by a very ingenious adaptation of rolling-machinery, made fish-bellied when that form is preferred.

The application of railways was till recently limited to the conveyance of minerals and merchandise, and that at a very moderate velocity. The carriages were usually four-wheeled waggons, of small dimensions compared with those used on ordinary roads, in order that the weight might be distributed over a considerable length of road. Being guided in the required direction by the flanges, it is unnecessary to attach the axles of railway carriages in such a manner as to enable them to turn, and the wheels to lock under the body, as in common vehicles; and for the same reason, combined with the greater straightness of a railway, it is unnecessary to allow the wheel to revolve independently of the axles. The most approved plan, especially for edge-railways, is to fix the wheels firmly to the axle, and allow the axle to revolve in bearings attached to the body of the carriage. The wheels are almost invariably made of iron, those for slow traffic being cast, and others either wholly or partially made of malleable iron, in order to diminish the risk of fracture. Cast-iron wheels were found to wear very rapidly when used upon wrought edge-rails, but the application of the case-hardening process has rendered them more durable. From a very early period railway vehicles have been fitted with an apparatus called a *brake*, consisting of a piece of wood adapted to the form of the wheel-tire, and capable of being pressed against them by levers or screws with sufficient force to impede or arrest their revolution. Previous to the recent adaptation of railroads to rapid travelling, the use of springs was not common either in carriages or locomotive engines.

Animal power was the only means of locomotion originally employed on railways to any considerable extent; but the purpose to which they were applied, that of conveying mineral produce to a place of shipment, led to the application of gravity as an auxiliary, and, in some cases, as the sole source of motion. In such a case, where the inclination of the ground is very moderate, the slope of the road is frequently so adjusted that no greater power is required to take a loaded carriage down, than to take it up again when empty. When a declivity occurs steeper than is convenient for the ordinary power, an ingenious arrangement, called a *self-acting inclined plane*, is occasionally resorted to; on which a loaded carriage, or train of carriages, is allowed to run down by the force of gravity, drawing a rope, which, after passing round a wheel at the top of the incline, is conducted down the slope and attached to an empty train—the force of the descent of the loaded vehicles being sufficient to cause the empty train to run up to the top of the plane. This admirable contrivance was introduced in the latter part of the last century, and is still extensively used. Stationary steam-engines, which draw the carriages by means of ropes guided by pulleys or sheaves in the centre of the track, have been used from an early period, generally in situations where the ascent is too great to be conveniently mounted by horse-power. Locomotive or moveable steam-engines, in many different forms, have also been tried at various times since about the year 1805, although for more than twenty years after that time their powers were very imperfectly developed.

In the following notice of the steps by which the locomotive engine has been brought to its present state of comparative perfection, those points only will be dwelt upon which are peculiar to that machine as applied to railroads.

The possibility of applying the steam-engine to the purposes of locomotion was conceived by several of its earliest improvers, and in 1784 a plan was suggested in one of the patents of Watt; but it does not appear that either he or any other inventor carried their ideas into practice until about 1802, when Messrs. Trevithick and Vivian patented a high-pressure engine which was admirably adapted for locomotive purposes. Within a few years they built several carriages, one of which, at least, was for use on a common road. In 1805 they made experiments with a machine similar to that represented by the annexed cuts, on a tramway near Merthyr Tydvil, and thereby proved the practicability of their plan. Notwithstanding the extreme simplicity of this machine, it possessed almost all the essential arrangements of the modern engines.

Fig. 10.

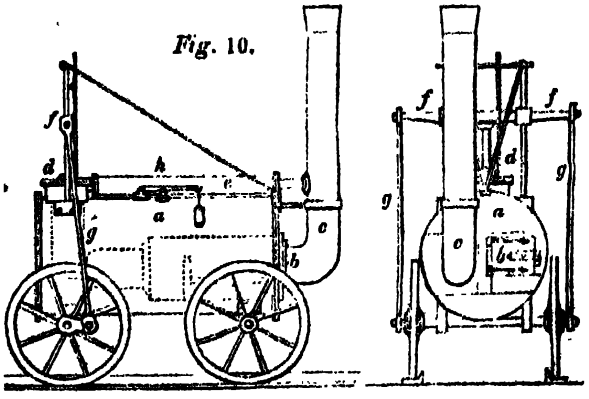


Fig. 10 is a side and end elevation of this machine, the same letters in each referring to the same parts: *a* is the boiler, which is of a cylindrical form, with flat ends. The fire is contained in a large tube within, and on one side of, the boiler. One end of this is seen at *b*, and the form is indicated by dotted lines in the side view. This tube extends nearly to the opposite end of the boiler, and then, being diminished in size, it is turned round and brought out to the chimney at *c*. The fire-tube is completely surrounded by the water, by which arrangement steam is generated with great rapidity and of a high degree of elasticity. The steam cylinder is placed vertically at *d*, being immersed nearly to the bottom of the boiler, as shown by the dotted lines. The steam is admitted alternately above and below the piston by means of a fourway-cock in a valve-box at the top of the cylinder; and the waste steam, after propelling the piston, passes by the eduction pipe *e* into the chimney, where its emission causes a strong draft. The upper end of the piston-rod is attached to a crosshead *f*, which slides up and down on vertical guides, and from the ends of which connecting rods *g g* descend to cranks fixed on the axles of the fore-wheels, which are thus caused to revolve like the fly-wheel of a stationary engine: *h* is a safety-valve on the upper part of the boiler. The immersion of the working cylinder in the boiler is happily contrived for compactness and economy of heat, and has been frequently imitated in subsequent engines; and the admirable arrangement of throwing the waste steam into the chimney has been almost invariably followed, as it affords a blast always proportionate to the speed of the engine, and the consequent demand for the evolution of steam. This machine, when tried on the Merthyr tramway in 1805, drew a train of waggons containing ten tons of iron and a considerable number of persons, at the rate of five miles per hour. A supplementary carriage followed the engine to carry a supply of fuel and water; and a small force-pump, worked by the machine itself, maintained the requisite quantity of water in the boiler.

Trevithick was aware that, although the adhesion between the engine-wheels and the rails was sufficient to ensure the progressive motion of his machine on a level or nearly level road, the wheels would slip round without advancing if the inclination were considerable, or the load attached too great. He therefore in his patent proposed to remedy this by making the propelling wheels uneven by the projecting heads of bolts, cross-grooves, or fittings to railroads, where the adhesion of the plain wheels should prove insufficient. Being otherwise occupied himself, he did not proceed with his locomotive experiments. An erroneous idea was for many years generally entertained, that the adhesion of plain wheels was insufficient for any practical purpose, and consequently much ingenuity was expended in contrivances for securing progressive motion by other means. One of the most successful experimentalists in this way was Mr. Blenkinsop, who, in 1811, patented a locomotive engine in which the power was applied to a large cogged wheel, the teeth of which entered a rack laid down beside the ordinary rails. Blenkinsop's engine was in other respects very similar to that of Trevithick, but two cylinders and pistons were employed, working separate cranks at an angle of 90°, so that one was exerting its full force while the other passed its dead points. Engines on Mr. Blenkinsop's plan were worked for some years on a colliery line near Leeds, and drew very heavy loads at a slow rate; but the friction of the machinery was excessive, and they are consequently now disused. In 1812 Messrs. Chapman constructed engines on eight wheels, all of which were turned by the machinery in order to increase the adhesion. They also proposed to stretch a chain or rope along the railway, which should pass round a grooved wheel turned by the engine, and thereby aid the progressive motion.

In 1814 and 1815 engines were again tried with plain wheels, and, being found efficient, were used upon railways in the north of England. Several attempts have however been made since that time to introduce contrivances for increasing adhesion, to enable locomotive engines to ascend planes of greater inclination than they will do with smooth wheels alone.

Patents were taken out in 1816 and 1817, by George Stephenson, in connection with Messrs. Dodd and Losh, under which several locomotives were constructed and brought into operation upon colliery railways near Newcastle-upon-Tyne. The boiler in these machines resembled that of Trevithick, but the fire-tube passed completely through, instead of being turned and brought out at the back. Two vertical cylinders were used, each working a distinct axle and pair of wheels, the cranks of which were kept at the requisite angle of 90° by means of an endless chain stretched over grooved or toothed pulleys fixed on the axles; or, in the more recent engines, by connecting rods outside the wheels. Engines of this kind seldom exceeded a speed of about five miles per hour, unless unloaded, when they occasionally ran at the rate of ten or twelve.

When the projectors of the Liverpool and Manchester Railway were engaged in the design and execution of that great work in 1825 and the following years, the advantages of locomotive steam-engines were so imperfectly developed, that it was uncertain whether they should be adopted. The experiment of forming a railway for passengers as well as general merchandise traffic had scarcely been tried, although the Stockton and Darlington Railway, which was opened in 1825, had done more than any of its predecessors in showing the capabilities of a railway for such a use. As the Liverpool line approached completion, the directors were convinced that horse-power was ineligible, as it was intended to aim at considerable velocity. It was not so easy to decide on the comparative merits of stationary and locomotive engines. Various suggestions were made for the application of fixed engines at intervals of a mile or two along the line, to draw trains by ropes from station to station; but it was eventually determined to use locomotives, and to offer a premium of 500*l.* for the best which would fulfil certain conditions, of which some were that it should not emit smoke, should draw three times its own weight at the rate of ten miles per hour, should be supported on springs, not exceed six tons weight, or four tons and a half if on only four wheels, and should not cost more than 550*l.* The trial was fixed for October, 1829, when four steam locomotives were produced, one of which was withdrawn at the commencement of the experiment. Of the other three, the Novelty, by Messrs. Braithwaite and Ericson, was very light, and had the requisite draft produced by a blowing-machine. Its performance was very promising, until an accident with the boiler put an end to the experiment. More recent attempts have been made to introduce engines of similar construction, but they have not proved successful. The Sans Pareil, by Mr. Hackworth, was very similar to Trevithick's engine, but had two cylinders, both working the same axle. The two pair of wheels were coupled together by connecting rods, so as to make use of the adhesion of them all. This engine attained a velocity of fifteen miles per hour with a gross load of nineteen tons, but at length gave way owing to a trifling accident. The remaining engine, the Rocket, was constructed by Robert Stephenson and Mr. Booth, of the Liverpool and Manchester Railway, and succeeded in performing more than was stipulated for.

The following cut represents a side view of the machine,

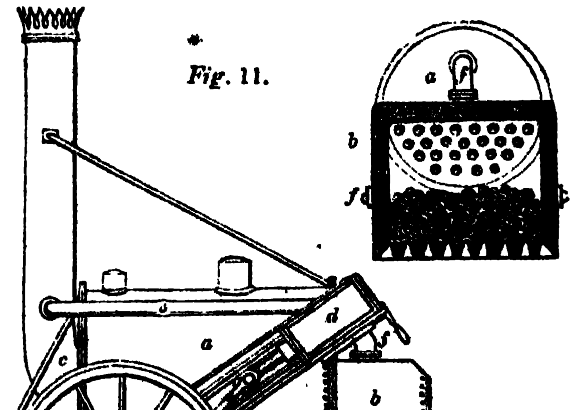


Fig. 11.

with a cross section of a portion of the furnace: *a* is a cylindrical boiler, with flat ends; *b* the fire-box, which is double, as indicated by the cross section, the fire being contained in the inner part, and the space of about three inches between the inner and outer casing being filled with water. Twenty-five copper tubes of [illegible] inches diameter extend longitudinally through the boiler, opening at one end into the fire-box, and at the other into the bottom of the chimney at *c*: *d* is one of the steam-cylinders, of which there were two, placed diagonally on the sides of the boiler. The piston-rods worked in guides, and by means of connecting rods transferred the motion of the pistons in a very simple and effective manner to the large wheels. It was arranged as usual that one piston was in the middle of its stroke while the other was at the end of the cylinder, and consequently powerless. The waste steam passed from the cylinders along the pipe *e* to the chimney, in order to produce draft: *ff* are pipes connecting the water in the casing of the fire-box with that in the boiler.

The use of several tubes of small diameter instead of one large flue through the boiler, is the most important peculiarity of this machine, as, owing to the great extent of surface of heated metal thus placed in contact with the water, steam was produced with extraordinary rapidity. This plan, which was suggested by Mr. Booth, has since been carried to a great extent, by reducing the diameter and increasing the number of the tubes. The inclined position of the steam-cylinders caused the motion of the machinery to interfere less with the play of the springs than if they were placed vertically, but their situation had the disadvantage of exposing them to the cold air, by which the power of the steam is diminished—an inconvenience avoided in most subsequent engines by placing them horizontally in a casing under the chimney. The nuisance of smoke was prevented by the employment of coke as fuel. The Rocket, with a gross load of seventeen tons, averaged a speed of fourteen miles per hour; but under some circumstances it attained double that velocity. Subsequent engines built by Mr. Stephenson were of much greater power.

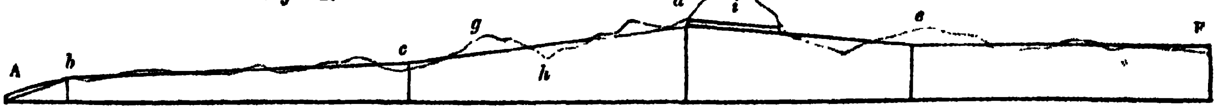
Great as are the advantages realised from this improvement in the means of intercourse, it is impossible, after the lapse of only ten years, to form an adequate idea of their importance; but the fact that it has led to an expenditure exceeding 60,000,000*l*. in the construction of railways in this kingdom alone indicates the magnitude of the changes introduced by it. Modern improvements will be treated of as they come under notice in a sketch of the operations of designing, constructing, and working a railway.

Designing a Line of Railway.—It is not intended here to enter into a disquisition on the important economical questions which should be considered in marking out the main lines of communication in a country. It is the opinion of many persons that a system of railroads should be laid out by the government of a country, whether they are actually formed by the state or by private individuals. Arguments in support of such a view have been drawn from the want of unity of plan which is evident in the railways of England, most of which have been designed in short lines from one important town to another, without due regard to combination of plan. The commissioners appointed to report on a system of railways for Ireland have considered this subject very ably, and endeavoured, in their proposed lines, to avoid the errors consequent on the limited views of private speculators. Most of the continental railways have been laid out more under government control than those of England, but there are not at present sufficient data from experience to allow of a fair comparison between the working of the two systems. In considering this point, it should not be forgotten that, however desirable a comprehensive plan may be in a country yet to be supplied with railways, experience in cases most analogous leaves but little reason for supposing that the railway system would have made the sudden advances that it has, unless under the stimulating, though by no means unexceptionable, agency of private speculation and commercial enterprise.

When the termini and general course of a line of railway are determined on, it remains carefully to examine the country to be passed over,—its elevations and depressions—its rivers, canals, roads, and all other streams of water or means of communication that have to be crossed, or in any way interfered with—and its geological structure; any of which may occasionally render a deviation from the direct course advisable.

As a general rule, a perfectly straight and level line is to be preferred when the termini are of equal elevation, or a uniform slope when one is higher than the other. An attempt has indeed been made to prove that a railway formed in a series of undulations would be preferable to one perfectly level, because the power of gravity might be used to aid in the descents, and that of acquired momentum in the ascents, thereby reducing the amount of artificial power required for moving carriages upon the road; but the general opinion of engineers is not favourable to this theory. There are, however, some circumstances under which advantage may be taken of the powers of gravity and momentum, without the serious inconveniences which would attend the use of an undulating railway. But as it rarely happens that a perfect level or a uniform slope can be attained for any great distance without such a deviation from the natural surface of the ground as would be very inconvenient and expensive, the engineer so adjusts his inclinations or *gradients* as to make the nearest practicable approach to a level; avoiding if possible any loss of power from undulations of surface, by making all the inclinations on one side of the summit, or highest point to be passed over, rise towards it, and all on the opposite side descend from it. In order to the due adjustment of the gradients, a section or profile of the line of country is prepared, in which the elevations and depressions are drawn to a much larger scale than the horizontal distances. *Fig.* 12 is a section of an imaginary line, resembling those prepared for parliamentary inspection. The horizontal line at the bottom is given as a basis for measuring the elevations from, and is made to have reference to some fixed point near one of the termini. This section may be supposed to represent the line of a railway between a seaport town at A, and an inland town at F: the undulating line representing the natural surface of the ground; the straight lines from point to point, the intended surface of the railroad; and the vertical lines marking the changes of inclination. Owing to the intervening high ground, a uniform slope from A to F is impracticable, but a line with very moderate inclinations is obtained by tunnelling through the ridge at *i*, excavating the minor elevations, and filling up the hollows. If a road were made on the natural surface of the ground, a carriage passing along it would, after mounting to the elevation *g*, have to descend to *h*, and immediately remount to the top of *i*. But in a road constructed on the level of the proposed railway, not only would part of the elevation of *i* be avoided by the tunnel, but that which remains would have to be ascended only once, as every part between A and *d*, the summit of the road, rises towards it, though in different degrees; and in like manner the whole distance between *d* and *e* inclines downward, while the remaining part, from *e* to F, is perfectly level.

Fig. 12.



Owing to the short interval which has elapsed since the commencement of railway operations on a large scale, many theoretical points respecting them yet remain unsettled. Even the amount of retarding effect caused by passing over a given elevation is variously estimated by different engineers. On an ordinary road the resistance arising from friction and irregularity of surface is so great that the effect of gravity is scarcely perceptible on a moderate inclination; but on a railway the friction and road-resistance are reduced to so small an amount, that gravity, which remains the same, becomes a material part of the total resistance, even where the inclination of the road is very slight. It is a theory of many engineers, that an elevation of twenty feet requires an exertion of power equal to that on a mile of level railway; so that the same power which would move a given load over one mile of railway rising 1 in 264, or twenty feet in the whole, would move the same load over two miles of level road. The practical importance of this question is very great, because a correct understanding of it is essential to show how far it may be advisable to deviate from a direct course in order to avoid a given elevation. Supposing, for instance, that a railway is required between two points twenty miles apart, and that a straight course may be obtained by passing over an elevation of 100 feet, it may be preferable to increase the length to twenty-four miles, if by so doing a level can be obtained; because the elevation of 100 feet will require as great an expenditure of power as five miles of horizontal railway.

It is often necessary to conduct a railway over a considerable elevation, but engineers differ as to the best arrangement of the unavoidable inclinations. Some prefer distributing the rise and fall as equally as possible throughout the whole line, while others consider it best to concentrate them in a few steep planes, in ascending which additional power is used, and to make the rest of the line comparatively level. The Liverpool and Manchester Railway may be cited as an instance of the latter mode, the main line having no gradient exceeding 1 in 849, with the exception of two inclined planes of about a mile and a half each, inclining 1 in 89 and 1 in 96, near Rainhill, at which it is usual to assist the trains by an additional locomotive engine. The Great Western Railway also, in a length of 117½ miles, has no steeper gradient than six feet six inches per mile, or about 1 in 812; excepting two inclined planes of 1 in 100. In the London and Birmingham Railway, which affords an example of the former system, the ordinary gradient is 1 in 330, or sixteen feet per mile, which is nowhere exceeded except on the extension from Camden Town to Euston Square. The characteristic or ordinary gradient on the South-Western, Brighton, South-Eastern, and many other lines, is 1 in 264, or twenty feet per mile.

A certain degree of similarity in the gradients is essential to the economical working of a railway by inanimate power. If any inclination occur so steep that the ordinary power cannot ascend it by a reduction of speed, it must either be surmounted by the aid of auxiliary power, or the engine must run over other parts of the road with less than a maximum load, and consequently at unnecessary expense. So long as this inconvenience is avoided, it is the opinion of some scientific men that the degree of inclination is of little consequence on a railway with an equal traffic in both directions, because the assistance of gravity in the descent, being set against the additional resistance in ascending, brings the total amount of power required in traversing the line *in both directions* to nearly the same as would be needed if the road were a perfect level.

Some highly interesting experiments have been recently made on this and other points of railway economy, under the superintendence of Dr. Lardner, of which the following seems to indicate that this compensating effect takes place on inclinations of much greater steepness than has been generally supposed. Great caution is necessary in forming calculations on such a subject from single experiments, however carefully conducted, but the results are certainly such as to justify serious inquiry. In July, 1839, the Hecla engine, with twelve carriages, making a gross weight, including the engine, of eighty tons, was run from Liverpool to Birmingham and back in the same day, by which means the same train, under as nearly as possible the same circumstances, had to ascend and descend every plane on the line, a length of about ninety-five miles. The time of passing each quarter-mile was carefully observed, so as to obtain the speed on every portion of the road. The following table, extracted from the seventh edition of 'Lardner on the Steam-Engine,' gives the result of observations on gradients varying from level to [illegible] 177, or nearly thirty feet per mile:—

Gradient. One in	Speed in ascending. Miles per hour.	Speed in descending. Miles per hour.	Mean spe Miles per h
177	22·25	41·32	31·78
265	21·87	39·13	32·00
330	25·26	37·07	31·16
400	26·87	36·75	31·81
532	27·35	34·30	30·82
590	27·37	33·16	30·21
650	29·03	32·58	30.80
Level	——	——	30·93

From this table it appears that, although the plane of 1 in 177 diminished the speed from near thirty-one miles per hour, the velocity on a level, to little more than twenty-two miles, in the ascent, the deficiency was fully compensated by the increased rapidity in the descent. The result fairly indicates a most remarkable and valuable fact—namely, that a line of railway with gradients of from twenty to thirty feet per mile may be worked in both directions by the same expenditure of power as a dead level; and this fact, if substantiated by more extended experiment, proves that many millions may be saved in the execution of future railways by being content with steeper inclinations than have hitherto been considered advisable. The whole of the compensating effect here produced is not to be attributed to the agency of gravity and momentum—a part, and perhaps a very considerable part of it, being due to the diminished resistance of the air to the passing of the train on ascents, owing to its reduced velocity. The nature and extent of atmospheric resistance to railway trains are things on which so little is known, and opinions are so conflicting, that the extent of its influence in the experiment alluded to cannot be stated with certainty, but it is probably considerable, as the result is very different from that which might by calculation have been expected from the mere effect of gravity and friction. The resistance of the air being almost imperceptible in the case of common roads, owing to the great friction and moderate velocity, has frequently been considered too trifling to become an element in calculations on railway transit, and hence arises much of the error that has hitherto prevailed respecting inclined planes.

Curves on a main line of railway being very objectionable, a judicious engineer so adjusts his line as to avoid them when possible, and to make those which are inevitable of as large a radius as circumstances will admit. Curves of less than a mile radius are considered unadvisable for places where great velocity is required, although many of only half-a-mile radius are in use. At stations and depôts, where the trains always move slowly, the radii may be much shorter without inconvenience.

A railway should not be allowed to cross any much-frequented road on the same level. When the Liverpool and Manchester line was projected, as the rate of travelling was not expected to exceed ten miles per hour, no danger was anticipated from such intersections, which are called *surface-crossings*; and accordingly several were allowed: but their inconvenience and danger have caused some of them to be altered. In recent railway acts it is enacted that no turnpike-road or highway shall be crossed on the same level; a rule to which exceptions are very rarely allowed; and if they are, gates must be erected to enclose the railway, and attendants stationed to open them for the passage of vehicles across it. These gates should be so hung as to completely close the railway when the road is open, and *vice versâ*. In a few instances two railways have been allowed to intersect each other on the same level, but this highly dangerous arrangement is now very rarely permitted. Where a single road is crossed, it may not be necessary to regard it much in selecting the level for the railway, as such road may be made to slope gradually to the requisite level for passing under or over it; but in approaching towns, where many communications are interfered with, it is essential that the railway level should be made higher or lower than the ordinary surface, in order to avoid them. At Liverpool this is effected by tunnels under the town; at the London end of the Birmingham Railway by an open cutting; and at Manchester, Birmingham, and many other places, by an embankment or viaduct. The Greenwich Railway, extending over a metropolitan district the whole of its length, is entirely on a viaduct, and that from London to Blackwall, a similar line, is principally so.

Railways frequently intersect the course of rivers and canals, and numerous bridges are necessary. Where the course of the streams thus crossed is sinuous, expense may sometimes be reduced by making a new channel for the river, such a cut often being the means of avoiding the erection of two bridges, as in the instance of the Manchester and Leeds Railway in the valley of the Calder.

Obtaining an Act of Parliament.—The number of crude and ill-judged speculations brought forward in the years 1835, 1836, and 1837, led to the making of new standing orders, by which the facility of obtaining railway acts is much reduced. Many think that these regulations are now too stringent; and the very limited number of new undertakings sanctioned since they came into operation, though partly to be accounted for by other circumstances, appears to confirm that opinion. The present standing orders of Parliament require the deposit of detailed plans and sections of a proposed line of railway, with certain specified officers in the counties through which it is proposed to carry the railway, in the Private Bill Office, accompanied by books of reference, showing the owner, lessee, and occupier of every house or piece of land likely to be interfered with, long before an application can be made for an act. These plans, &c., are to be deposited, and notices of the intention to apply for an act are to be published in newspapers, at various times in February, March, and April, of the year preceding that in which an act is to be applied for; so that a whole year is allowed for interested parties to consider the scheme, and prepare for opposing or advocating it when before Parliament. Notices must also be given, personally, to all the owners, lessees, or occupiers of property on the line, before a bill is introduced. Before 1837 a period of about six months was required, instead of twelve,—an arrangement far more favourable to railway companies than the present. These preliminary steps are often taken before the formation of a company to carry the project into execution. A company must, however, be formed before a bill can be introduced; and a sum equal to ten per cent. of the estimated cost must be deposited in government securities. After the second reading the bill is referred to a committee, in which the merits of the project, the stability of the shareholders, with other circumstances, undergo a searching investigation. If the bill be opposed in this stage counsel are engaged, and witnesses examined, on both sides, often at an enormous expense. Clauses are often inserted, during the progress of the bill, for the special protection of parties whose property is likely to be injuriously affected by the railway.

A railway act forms the shareholders into a corporate body, and invests them with the necessary powers for the construction of the line. They are authorised to subscribe the estimated amount in shares, and also, usually, to borrow an additional sum equal to one-third of the share-capital, if necessary. The numerous matters embraced in the act frequently extend it to one or two hundred folio pages; and the present arrangements occasion so great an expense when a bill is opposed, that the cost of obtaining an act is often several thousand pounds. The London and Birmingham Railway Company spent more than 72,000*l.* in obtaining theirs, and the Great Western upwards of 88,000*l.* The London and Brighton is, perhaps, the most expensive contest of the kind that has taken place,—four or five companies having engaged in it for two successive sessions: when in committee, the expense of counsel and witnesses in the latter case is stated to have amounted to 1000*l.* daily for about fifty days.

The act of Parliament being obtained, the land required for the railway is set out and purchased. Where exorbitant claims are made for the land, or for compensation for injury caused by the severance of estates, recourse is had to a jury, who generally award a sum far less than that claimed,—frequently less than a quarter.

Formation of the Road.—Under this head is included the execution of those works necessary for the construction of a road (independent of the rails and finishing works) of the required level and width. These works consist of tunnelling, excavation, embankment, and masonry for bridges, viaducts, and other erections. They are commonly divided into convenient portions, and let to contractors under agreement to complete them at a stipulated price and within a specified time.

Tunnels are, in general, the most formidable works, and the time and expense of forming them can be least accurately calculated. Trials of the nature of the ground are made by boring. Being objectionable also on other accounts, tunnels are avoided as much as possible in the more recently designed railways.

Cuttings or excavations of great depth and extent are of frequent occurrence where the railway passes through high ground. The depth of cuttings is frequently from fifty to seventy feet, and occasionally even greater. One very extensive excavation through the Cowran Hills, on the Newcastle and Carlisle Railway, is a hundred feet deep. The degree of slope necessary in the sides of cuttings varies greatly in different soils. Rock will stand when nearly vertical; chalk varies from nearly vertical to a slope of one horizontal to one vertical, or an angle of 45°; gravel stands usually at one and a half to one; London clay from one to one to three to one, having in some instances stood at the former and slipped at the latter slope. Some materials are insecure at even a greater slope; blue soapy shale having, according to Lecount, slipped at an inclination of four horizontal to one perpendicular. The unexpected slipping of the slopes sometimes occasions much trouble and expense. The great cutting at Blisworth, on the London and Birmingham Railway, is an example of a convenient and economical method of passing through earth in which strata of rock occur. The railway is at a depth of fifty or sixty feet, the upper portion of which is rock, and the lower consists of a less solid material. Instead of making an excavation of the slope required by the lower strata, which would have rendered the removal of the superincumbent rock indispensable, the sides were made nearly vertical, and the rock was supported by an undersetting of masonry. The great breadth of ground occupied by the slopes of cuttings is a serious objection when they are in the vicinity of towns, or pass through valuable property, in which cases the sides may be made nearly vertical, and supported by retaining walls, so curved as to enable them to sustain the pressure of the earth. The extension of the Birmingham Railway to the Euston station at London is a very bold and handsome example of this kind of work. In designing the works of a railway, the amount of excavation and embankment should be balanced as nearly as possible, so as to avoid the necessity of depositing earth from cuttings in spoil-banks, or having to purchase additional land to supply material for the embankments. Attention to this point will sometimes decide which is most expedient, a short tunnel or an open cutting.

Embankments are the artificial ridges of earth formed to support the railway on a higher level than the natural surface of the ground. Their dimensions are often fully commensurate with those of cuttings, from which their materials are mostly procured. In the ordinary mode of proceeding, an embankment is formed simultaneously with a cutting, the earth-waggons proceeding filled from the excavation along a temporary railway to the embankment, where they are tipped up to discharge their contents. A heavy embankment often forms the key, as it were, to the time of completing a railway. Tunnelling and excavation may be proceeded with at many different points, but an embankment, under ordinary circumstances, can be carried on only at the ends. Where the excavations do not afford sufficient material, embankments are partially formed of earth dug from trenches along their sides, and thrown up into the centre. This is called side-cutting, and, being an expensive proceeding, should be resorted to as little as possible. An important element in the cost of embankments is the length of the *lead*, or distance to be traversed by the earth-waggons between the points of filling and emptying. The sides of embankments, like those of cuttings, require a considerable slope, especially when the material is of an unfavourable nature. The earth should be deposited in layers of two or three feet thick, slightly concave on the upper surface; and, if time permit, it is well to allow one layer to settle before another is spread over it. The subsidence of newly-made embankments is a source of great expense, and sometimes of danger. It is usual to lay the rails in such a manner as to diminish the risk of accident from this cause, and to travel slowly over parts where a tendency to slip is observable, especially in wet weather; yet casualties will sometimes occur until these great earthworks are thoroughly consolidated. Allowance should be made for subsidence by making the embankments rather higher than they are intended to be finally. Great difficulties are experienced in embanking across marshy or boggy soils, which frequently sink under the weight of the earth deposited, and the ground at the sides bulges up. Judicious drainage may do much in such cases, and the insertion of a frame-work of timber to bind the earth together, and thereby check the unequal settlement of the embankment, has been tried with apparent success by Mr. Braithwaite on the Eastern Counties Railway. To prevent carriages which escape from the rails falling over the sides of an embankment, mounds of earth are sometimes raised along them. Embankments have been made across Chat Moss, on the line of the Liverpool and Manchester Railway, and in similar places. The difficulties arising from the yielding nature of the material are greatly obviated by drainage, for, when dry, the moss itself becomes a fit substance for embanking, and stands well at a slope of less than 45°. The railway is sustained on part of Chat Moss by a platform of timber and hurdles, covered with earth and broken stone. A peculiar kind of embankment required in hilly districts and along coasts, consists of a road on the side of a steep elevation, one side being supported by a sustaining or revêtement wall. An important work of this kind is being executed along the face of part of the Dover Cliffs, for the South-Eastern Railway, in which the revêtement wall is exposed to the sea. Similar constructions have been introduced on the Dublin and Kingstown Railway, where there is also a remarkable embankment across the strand at Blackrock, that, at high water, has the appearance of a mole stretching into the sea, which is allowed to pass through it by culverts. On the Preston and Wyre Railway is an extensive embankment in a similar situation, but, when completed, it is intended to exclude the sea. On the Stockton and Hartlepool line a sea-embankment of clay has been recently completed, the side being puddled and formed into such a curve as to bear the dashing of the waves. Retaining walls are occasionally used to diminish the space occupied by embankments. The Dublin and Kingstown Railway commences in this manner, arches being introduced at the intersection of streets and roads.

The earth-works on most of the great lines of railway in England are very extensive, in many cases averaging from 100,000 to 150,000 cubic yards per mile. On the London and Birmingham line alone the quantity of earth and stone removed was about 16,000,000 cubic yards. When completed, it is advisable to sow the slopes of cuttings and embankments with grass-seed, as their appearance is thereby improved, while the roots give cohesion to the surface.

The amount of masonry and brickwork required in the various erections of a railway is very great. The lining of tunnels, where the ground penetrated is of such a nature as to require support, forms a peculiar kind of work. Arching of almost every kind is more or less required in viaducts, bridges, culverts, and drains; and simpler work in the retaining walls, station buildings, and other necessary erections. Viaducts of great magnitude are often executed for the purpose of crossing valleys at an elevation greater than could be conveniently obtained by embankment, and also for entering or passing through towns. They are usually of stone or brick, but sometimes of wood or iron.

Bridges are required occasionally for crossing rivers, and very frequently at the intersection of roads, and as communications between severed property. From a statement by Lecount, in the 'Encyclopædia Britannica,' it appears that, taking the mean of nearly a hundred railways, the number of bridges averages about two and a quarter per mile. Besides ordinary arches of brick and stone, bridges consisting of cast-iron girders laid from one abutment to the other, and supporting a platform of flag-stones, iron plates, or planks of wood, are very common. When the railway itself passes over such a bridge, six ribs are used, the distances of which are so adjusted that four of them sustain the rails and the other two the parapets, leaving nothing necessary between the ribs or girders except a flooring of iron plates. By this arrangement great strength is ensured, and the depth or thickness of the bridge is reduced to a minimum, no ballast or road material being necessary. Wooden bridges of similar character are occasionally used.

Skew-bridges are introduced when the railway intersects any existing communication at an oblique angle. Such arches were built before the introduction of railways called them into general use; but as, in an ordinary road or a canal, a deviation from the straight line is of little consequence, it was seldom thought necessary to apply them, and it was customary to build the arch of the ordinary form, on the square, and accommodate the direction of the road or canal to it by curved approaches. But on a railway straightness is of great importance, and it frequently becomes necessary, in crossing other roads, to adopt a skew-bridge, in which the communications over and under the bridge form unequal angles with each other.

When the various works described are completed, with the requisite drains and fences, the road is ready for receiving those finishing works which entitle it to the distinctive name of *railroad*. The level of the earth-works, when completed, is called the *formation-level*, and is usually about two feet below the intended surface of the rails. The width of this surface is about thirty feet, exclusive of the side-drains and fences, and it is made a few inches higher in the middle than at the sides, in order to throw off water.

Ballasting and Laying the Rails, &c.—In order to obtain a firm dry foundation for the blocks or sleepers to which the rails are fastened, a layer or stratum of broken stone, technically called *ballast*, is spread over the road for a thickness of a foot or more, varying according to circumstances. After the rails are laid down, similar materials are used to fill in the spaces between the blocks and sleepers. The broken stone should be so small that any piece would pass through a ring two inches and a half in diameter. Other substances are occasionally used, especially for the upper part of the ballast, as gravel, river-sand, and burnt clay. In some situations, with good ballast, no surface-drains are necessary; but drains consisting of a brick channel along the middle of the line, with small cross drains at intervals towards each side alternately, are often required.

There is great variety of opinions as to the best form and manner of fixing the rails. The most important question involved in these differences is that of the intermediate or continuous support of the rails. The most common method of fixing them is to fit them into iron chairs, which are spiked down to blocks of stone imbedded in the ballasting. This plan, although it appears by experiment to afford the firmest foundation, has several disadvantages. The points of support, being isolated from one another, are liable to be deranged by any subsidence in the ground, as well as by the constant vibration consequent upon the rapid passage of heavy trains, and the small but irresistibly powerful action of temperature in causing the expansion and contraction of the rails.

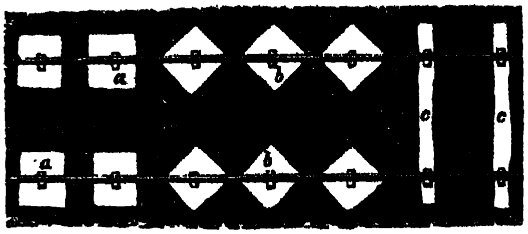
The former of these inconveniences is in some degree obviated by substituting cross sleepers of wood (like those described as being used in the early railways) for the stone blocks upon such parts of the line as are likely to sink. The two rails, being, in this case, attached to the same sleeper, are not liable to be thrown out of gauge, or, in other words, to lose their parallelism, although the unequal sinking of the sleeper may cause one rail to become lower than the other. This application of wooden supports has been in most cases considered a temporary one, it being intended to lay stone blocks in their stead so soon as the ground became sufficiently firm; but it appears from experience, both in this country and in North America, that the motion of carriages on those parts of a line supported by wood is smoother and quieter than on others.

In both of these modes of supporting the rail it is sustained only at intervals of three or four feet, the intervening portion acting as a bridge, which, though very rigid, yields in a slight degree when the heavy locomotive engines pass over it. The surface of the rail is thus converted into a series of minute undulations, the effect of which is to increase the resistance. It has been thought that these undulations were of little consequence, the gain in descending being a counterbalance to the retardation of the ascent; but Professor Barlow, in reporting on experiments made by him in 1835, for the London and Birmingham Railway Company, expresses an opinion that "the advantage of the descent is, owing to the velocity and the shortness of the inclined plane, scarcely appreciable, and that the result of the deflection will be equivalent to the carriage being carried up a plane of half the whole length, the other half being horizontal."

These and some other considerations have led to the adoption of a continuous support to the rail, which has been effected in several different ways, and with various success. Intermediate supports, being the most extensively employed, will be first noticed; and stone blocks, according to general opinion, claim the precedence among them.

The blocks used upon recently-constructed railways are about two feet square and one thick, though much smaller ones were considered sufficient before the use of locomotive engines became general. They are roughly squared, but have so much of the surface, as is to receive the chair, accurately flattened. The chairs are usually fastened down by two or three iron spikes, to receive which holes are made in the stone, and filled with wooden plugs. The plugs should always be bored to receive the spike, and driven tight into the stone, though they are sometimes put in loose and split by driving the spike. Spikes or pins of well-dried oak have been used instead of iron spikes for securing the chairs, and have been found very durable, but are not generally approved for lines worked at great speed. The introduction of a piece of felt between the chair and the block is useful in deadening concussion. As it is highly important that stone blocks should be well bedded, it is usual to cause them to form a solid foundation for themselves by repeatedly falling from a small elevation upon the spot where they are to rest; sand or very fine gravel being thrown under them between the times of falling. For this purpose a portable machine with an elastic wooden lever about twenty feet long is used, the block, to which the chair has been previously attached, being suspended from the short end, and a man stationed at the opposite end to raise and drop it. When the stone has made a firm bed, and has dropped in the right position, which is determined by levels and sights, it is detached from the lever and surrounded by ballasting. *Fig.* 13 is a ground-plan illustrating the use of stone blocks and wooden sleepers. *a a* represent blocks laid square with the road, and *b b* the same laid diagonally, a position now generally preferred, being convenient in repairing the road when a block sinks, because workmen can get at every side for the purpose of ramming ballast under it. Blocks of Scotch asphalte have been tried in lieu of stone, but with what success the writer is not aware. Other similar substances have been suggested in order to diminish expense. It has also been proposed to use cast-iron bed-plates instead of blocks, by which several important advantages were anticipated, but no such plan appears to have been brought extensively into use. In the Dublin and Kingstown Railway an attempt was made to ensure increased solidity by introducing *throughgoing* stone blocks, which were formed of granite, six feet long, two wide, and one thick, and stretched across the track. These were placed fifteen feet apart; ordinary single blocks being used between them, at intervals of three feet. Owing, perhaps, to the difficulty of bedding such large blocks, the plan did not answer, the motion over them being harsh and unpleasant, and the vibration such as to break many of the long blocks. In some cases, particularly on sharp curves, iron tie-rods have been used to connect two opposite chairs, and counteract any tendency to separate which might arise in such situations from the isolation of the blocks.

Fig. 13.

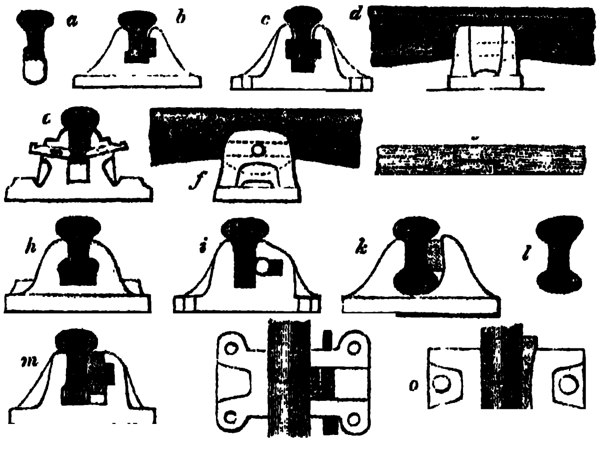


The use of cross-sleepers, which are represented by *c c*, *Fig.* 13, needs little remark. They are mostly from seven to nine feet long, and consist sometimes of whole trunks of small size, and in other cases of half-trunks laid with the flat or sawn side downwards. These and other timbers connected with a railway are now almost always Kyanized. Several lines of railway have recently been laid entirely upon these sleepers.

The distance between the points of support varies from three to five feet. Bearings of greater length have been used, but on railways for locomotive engines have been found unsuitable, from their greater liability to get out of repair. Experience has not fully decided the comparative advantages of long bearings with heavy rails and blocks, and short ones with comparatively light supports; but a greater length than three feet nine inches, or four feet, has seldom proved successful. Owing to the deflection of the rails, Professor Barlow enforces the importance of placing the supports exactly opposite to each other, that both sides of a carriage may be equally affected.

Rails and Chairs.—The experiments of Barlow and others leave it questionable whether any additional strength is obtained from a given weight of iron by the fish-bellied shape, and therefore parallel rails are now almost universally adopted. Among other advantages which they possess, the length of bearing on the different sides of a curved track may be so varied as to keep the chairs opposite to one another, which cannot be done with fish-bellied rails. *Fig.* 14 represents some of the principal varieties of form and contrivances for fixing the rails which have been introduced on English railways: *a* is a section of the fish-bellied rail originally used on the Liverpool and Manchester Railway, the shaded part being that which enters the chair, and the outline indicating the increased depth in the centre.—*b* is the same rail, as fixed in

Fig. 14.

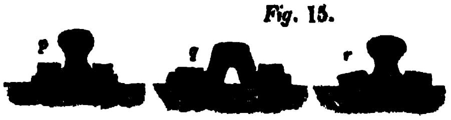


the chair, the black part representing the end of an iron wedge or key, which is driven in to secure it.—*c* and *d* are a section and side view of a plan invented by Mr. Losh, and used on the Newcastle and Carlisle Railway. The rails are made with a curved projection on the under side, to fit into a suitable concavity in the chair, as indicated by the dotted lines in *d*. Two iron keys are used, driven in opposite directions. Any contraction of the rail tends to draw it laterally out of the chair, but in doing so the curved base rises in its seat and tightens the keys, which press downwards as well as sideways.—*e* and *f* are similar views of a method contrived by Robert Stephenson, and used on part of the London and Birmingham Railway. In this the seat of the rail is flat, but bears upon a segmental piece of iron laid loose in a concavity in the chair, so that an irregularity which may cause the chair to tilt in the direction of the rail may not affect its position. The rails are secured by cylindrical pins, the points of which enter depressions in the side of the rail. Each pin has a slit through it, which, when in its proper position, tallies with holes through the cheeks of the chair. Iron keys driven into these holes prevent the pin from moving, and, acting as wedges against the end of the slit, force the pin tight against the rail. The chair represented is a joint chair, and *g* shows the form of the joint, which is called a half-lap. The narrow part of the rail is not divided, but turned aside at the joint, as shown by the dotted lines. Intermediate chairs are similar, but have a pin on one side only. This mode of fixing allows the rail to slide a little in the chair, on account of expansion and contraction, and the keys are not so liable to work loose as when in contact with the rail. These are all for fish-bellied, and the following for parallel rails.—*h* is a rail and chair invented by Mr. Daglish, and rewarded by the London and Birmingham Railway Company, as presenting the best sectional form of rail. The chair is proposed to be fixed to the block or sleeper by bolts passed through from the under side, and keyed above the chair. The rail is fastened by two semicircular iron keys driven in opposite directions. This arrangement, though ingenious, has the disadvantage that the rail could not be taken up without removing the chair.—*i* is a contrivance in which an iron ball, dropped into a socket in the chair, is forced against the rail by a key driven through a hole in one cheek of the chair. It is simple, and affords sufficient lateral movement for the effect of temperature on the rail. This form of rail is known as the T rail.—*k* and *o* are a section and ground-plan of a chair in which the rail is held by a wooden key. The keys are well seasoned, and when in use become by expansion almost immoveable; because, as shown in *o*, they are most compressed in the centre. So great, indeed, is the expansive force of the wood, that it occasionally breaks the chairs. This mode of construction is extensively used on the Grand Junction, Birmingham, South-Western, and other railways.—*m* and *n* show another application of a wooden fastening, adopted by Mr. Storey on the Great North of England Railway. A block of wood is so placed in the chair as to be prevented from moving endways, and is held to the rail by an iron wedge driven through the cheek of the chair.—*l* is a rail contrived for the purpose of fitting the wheel more accurately than those of the ordinary shape, but it is not much used. The rails here represented vary much in strength: *a* and *b* were made about thirty-five pounds to the yard, but have been found too light, and replaced by parallel rails of sixty pounds; *e* and *f* are fifty-pound rails, for three-feet bearings. Rails similar to *k* are made from sixty to seventy-five pounds per yard or more, for bearings of three to five feet, and they are now seldom used of less weight than seventy pounds to the yard. The most common joints are square, as *n* and *o*, but half-lapped and scarfed or diagonal joints are also used. The concussion produced by a very slight irregularity at these points is so injurious, that probably increased care and expense in making them perfect would be well bestowed. Chairs are almost invariably made of cast-iron, as their complex form renders it difficult to manufacture them otherwise with sufficient economy; but as they are liable to breakage from their brittleness, it has been proposed to make them of malleable iron, and machinery for the purpose has been patented, but apparently not yet brought into operation.

Railways on Continuous Bearings.—The introduction of this kind of railway is perhaps mainly to be attributed to the extensive use of timber in such works in North America. It has not only been used in lieu of stone, but also in a great measure in the place of iron. In many of the American and some of the Continental railroads, beams of timber laid continuously, and firmly connected together by cross-pieces, are made to supply the strength usually given to iron rails; and the application of iron is limited to a flat bar or plate two inches and a half wide, and from half an inch to an inch thick, nailed to the beams on their inner edges, for the wheels to roll upon. Though differing in details, this construction of railway is very like the old wooden tramway. Frequently these beams or wooden rails are supported upon cross-sleepers; but, whether they are so or not, their breadth of surface causes them to receive considerable support from the ballast or road materials along their whole length. Mr. I. K. Brunel, engineer of the Great Western Railway, was one of the first British engineers who proposed a similar construction, which he did with the hope of obtaining a smoother and more elastic road, which should at once be more agreeable to ride upon, cheaper to maintain, and safer for travelling at high velocities, than a railway constructed in the ordinary manner.

Although some of the supposed advantages are at present questionable, the superior smoothness of motion on such a road, when in good order, is pretty generally admitted; and an opinion seems to be gaining ground, that though longitudinal timber bearings do not produce so firm and unyielding a railway as stone blocks, and may therefore require rather more power in working, this disadvantage is more than counterbalanced by the diminished wear and tear, of which the comparative absence of noise is a tolerably accurate criterion. The Great Western Railway can hardly be compared with any other on account of its increased width, but the London and Croydon, which is entirely, and the Manchester and Bolton, Hull and Selby, and several other lines, which are partially laid in this manner, and which in other respects resemble those of the more common construction, may be fairly brought into comparison with them. The Greenwich Railway is a remarkable instance of the superior comfort of timber bearings to those of stone, the rigidity of the latter being aggravated by the circumstance of being on a viaduct. On this line, as in that from Dublin to Kingstown, it has been deemed advisable to remove the blocks, and substitute a more elastic structure of wood. The longitudinal timbers on the Croydon Railway vary from nine to fourteen inches wide, and four and a half to seven inches deep; and cross-sleepers are bolted under them at intervals of three feet. The rails are of the form shown at *p*, *fig.* 15, and are screwed down at intervals of eighteen inches on each side, a layer of felt being interposed between them and the timbers. These rails weigh about forty-seven pounds to the yard.—*q*, *fig.* 15, is the rail of the Great Western Railway, which is fixed in a similar manner, but the screws on the inner side of the rail are round-headed and countersunk, while the others are ordinary square-headed bolts. The longitudinal timbers are of larger dimensions, and the cross-pieces or transoms are placed fifteen feet apart, and framed with them, their office being more to keep the track in gauge than to bear any considerable part of the weight.—*r* and *s* are forms of rail sometimes used on continuous bearings, *r* being fastened by clamps or pins driven in obliquely. Rails similar to *p* have been fixed in the same manner, but the use of screws, though expensive, is decidedly preferable.

Fig. 15.



Continuous bearings of stone have been tried, but found too harsh and rigid.

Gauge, Width between Tracks, &c.—The gauge or width between the two rails forming a track is one of the points in railway practice which has excited much discussion. On the old railways four feet was not an uncommon width, but many lines were less. Some of the colliery railways in Northumberland are four feet eight inches and a half, and from these the Stockton and Darlington, Liverpool and Manchester, and other lines, took their gauge. The advantage of uniformity has led most companies to follow this example, and for a time it was rendered imperative by Parliament, but at present no standard is fixed by the legislature. The ordinary width being considered inconveniently limited, Brunel fixed upon seven feet as the gauge of the Great Western and its tributary lines. Much opposition has been made to this bold step, mainly on account of the inconvenience of not being able to connect with other lines, which is in some degree obviated by laying an inner rail for the use of narrow carriages on any portion of railway passed over by two companies whose lines are laid of different widths. The superiority of this enlarged gauge is apparent in the increased power and speed of the engines, and the stability and convenience of the carriages; but many who admit the inconvenience of the narrow gauge consider seven feet to be beyond the most advantageous width. Six feet two inches has been recommended by the Irish Railway Commissioners. Six feet is the width of some of the continental lines. The Dundee and Arbroath, and Arbroath and Forfar railways are five feet six inches; and the Eastern Counties, and London and Blackwall, about five feet. The ordinary standard in North America is four feet eight inches and a half, having been copied from the Liverpool line. Several recent lines in this country have been made four feet nine inches, to allow rather more play to the flanges than the common width. One of the great recommendations of a wide gauge is the scope that it allows for improvements in machinery; a circumstance evidently of much importance when it is considered that the experience of ten years only has led to the enlargement of locomotive engines to so great a degree that their weight and cost are now nearly treble what they were when the Liverpool and Manchester Railway was opened.

The width between the two tracks is a matter of much less consequence. On the Liverpool and Manchester line it is four feet eight inches and a half. The London and Birmingham Railway, and many others, have a space of six feet, which allows loads of ten feet wide to be carried with safety. The same intermediate space on the Great Western Railway, in consequence of the increased gauge, allows a maximum load of twelve feet. The space which is necessary outside the tracks is dependent on the width of load provided for, and seldom exceeds four feet, except on embankments, where a little more is sometimes allowed, so that, in case of carriages getting off the track, there may be width for them to run on the ballasting until the inner wheels come in contact with the outer rail, which will in most cases prevent the train from overturning.

In laying the rails, allowance should be made for the effect of temperature, which will cause a difference of length in a fifteen-feet rail, exposed to a range of 76° Fahrenheit, of about $\frac{1}{11}$th of an inch. The insertion of a piece of wood between the ends of two rails is an ingenious mode of avoiding concussion from the opening of the joints from this cause, for the wood expands as the iron contracts.

In the description of *fig.* 8 it is stated that the wheel-tires are made slightly conical, in order that the flanges may come in contact with the rails as little as possible. In ordinary wheels three inches and a half wide, the inclination of the tire is about 1 in 7, the diameter at the outside being an inch less than close to the flange. The wheels are so fixed that, when running straight, the flanges are about an inch from the rails. When the rails are fixed vertically, the line of contact between them and the wheels is, in consequence of their conical shape, so narrow as to cause considerable wear. Most engineers, therefore, give a slight inclination inwards to the rails, that they may present a greater surface to the wheels, although the friction is increased by the rubbing of the conical tire. This inclination is stated by Lecount to be $\frac{3}{8}$ of an inch in eleven inches, or about 1 in 29, on the Birmingham Railway. On the Great Western it is 1 in 20.

In running on a straight road, the conical tires keep the carriage in the true line of direction, because any deviation from it causes the wheels on one side to roll on an increased, and those on the other on a reduced periphery—an irregularity which immediately checks itself. But on a curved track the centrifugal force overcomes that of gravity so far as to cause the flange on the outer side of the curve to approach the rail, and consequently the opposite wheels to roll on unequal peripheries, thereby avoiding part of the friction consequent on the wheels (which are fixed to the axle) being compelled to revolve with equal velocity, though the outer one has to pass over a greater length of rail than the other. To prevent unnecessary friction between the flange and the rail, it is usual to lay the outer rail on curves rather higher than the inner one, that the opposing forces may be so balanced as to cause average loads moving at the medium speed employed to pass round the curve without the flanges on either side coming in contact with the rails, and with the wheels rolling on diameters unequal in a degree corresponding with the radius of the curve. A pair of ordinary coned wheels, three feet diameter, might run in a circle of only 565 feet radius without the flanges touching; and as no curves of such small radius are admitted on a main line of railway, it is evident that, in theory, nothing more than an accurate adjustment of the outer rail with reference to the speed of transit is necessary to enable trains to pass along any ordinary railway without the flanges being called into action, unless by accidental circumstances. The following is selected from a much more extensive table by the Chevalier de Pambour, to show the proper elevation of the outer rail on a line of four feet eight inches and a half gauge, under given circumstances. The calculations are suited to the use of three-feet wheels, coned as above described:—

Radius of Curve.	Speed 20 Miles per Hour.	Speed 30 Miles per Hour.
1000 *feet.*	1·43 inch.	3·30 inches.
2000 ,,	·71 ,,	1·65 ,,
3000 ,,	·47 ,,	1·10 ,,
4000 ,,	·36 ,,	·83 ,,
5000 ,,	·28 ,,	·66 ,,

Stations, Passing-Places, &c.—As a general rule it is best to have the stations and depôts as nearly as possible on a level with the surrounding land, both to save expense in construction, and to avoid inconvenience in the transfer of goods from the railway to common road vehicles. Wherever a higher or lower level is unavoidable, approaches of moderate inclination should be made for carriages. The station of the Brandling Junction Railway at Gateshead is of novel and ingenious design. The line is on a viaduct, the arches of which are prolonged so as to support a level of considerable extent. A branch track at right angles with the main line is laid along the crown of each arch, by which waggons are conducted to platforms that form part of the railway level, but may be lowered, with waggons upon them, to that of the warehouses, which are underneath the arches, and communicate with the natural surface. Stations vary in character, from mere booking-offices, where passengers and parcels wait to be taken up by passing trains, to great establishments covering several acres of ground, with separate offices for passengers, parcels, and heavy goods; facilities for transferring carriages, horses, and cattle to or from the railway; extensive sheds for trains to stand under; repairing-shops for engines and carriages; and many other necessary erections. The stations of the London and Birmingham Railway at Euston Square, Camden Town, and Birmingham, extend collectively over a space of about fifty acres; besides which the company have establishments of great magnitude at Wolverton, Rugby, and Hampton, and several of smaller dimensions.

Contrivances for conducting engines and carriages from one track to another are required in a variety of situations. They generally consist of *switches* and *turn-tables*. Switches are moveable rails placed at the point where two tracks fall into one, and they are capable of adjustment so as to guide vehicles from the single track into either of the two, or from either of the two into the single track. In the old railways this was effected by short *tongues* of iron, moved by hand; but it is necessary where locomotives are used to have the transition from one track into the other as gradual and free from concussion as possible, and therefore the moveable bars are made of considerable length, seldom less than eight or ten feet, and, on the Great Western Railway, fifteen feet. *Fig.* 16 represents a switch formed on the model of the old contrivance of moveable tongues. The black lines are the fixed rails which at A form one track, and at B two tracks. The double line from c to d indicates the switch, which is pivoted at d, and tapered to a point at the other end. From its under edge proceeds the bar e, which passes under the rail to a lever or eccentric placed in a convenient situation for being moved by an attendant. In the position represented by the engraving, the switch would conduct a train along the upper track from A to B, because free passage is allowed for the flange between the switch and the upper rail, while the inside of the flange pressing against the switch c d prevents the flange on the opposite side of the track from quitting the straight course. If, however, by turning the lever or eccentric connected with e, the switch be moved in the direction indicated by the arrow, the case will be reversed: the switch being brought into contact with the rail at c, the flange will be compelled to move along its inner side, and consequently that on the opposite side of the track will pass along the opening by the side of the lower rail. *f f* are fixed bars called guard-rails, which prevent the switch moving too far, and protect the narrow ends of the switch and rail from injury. Switches on this principle sometimes connect three tracks with one, by *two* moveable pieces, of which an example is in use at the Great Western Railway station at Paddington. It is a great recommendation of this kind of switch, that, unless the moveable rails are *fixed* in a wrong direction, a train can never get off the track, as the momentum enables the flange to open the switch and pass through. In some situations a spring or weight is applied with great advantage, to hold the switch in the position most commonly required, and return it to that position immediately after being acted upon. The *double rail* represented in *fig.* 17 is a contrivance much used as a switch, and affords a very smooth transition from one track to another. In this the two tracks terminate in two double rails, c d and c' d', pivoted at d d', and shifted as occasion requires in a similar manner to the former, the rails being connected by cross-pieces, so that the whole are moved simultaneously. In the present position of the apparatus the lower track is that connected with the single line; but by moving the switches in the direction of the arrow, the lower track would be disconnected, and the upper one made to join the track at A. These switches, like those previously described, are occasionally used treble; and they are sometimes made to unite two tracks in each direction.

Fig. 16.

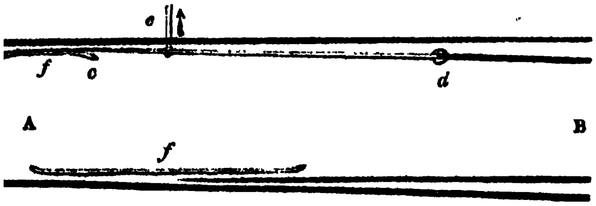


Fig. 17.

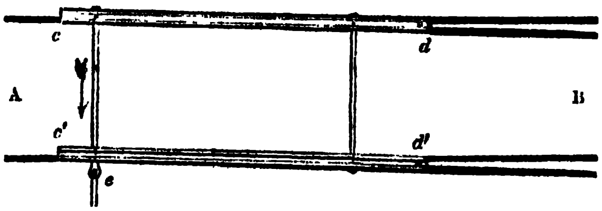
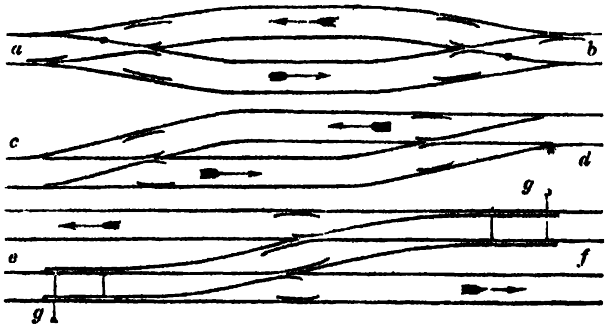


Fig. 18 is designed to illustrate the manner in which switches are applied at passing-places and crossings. *a b* is a passing-place for a single line of railway where the traffic is about equal in each direction. It should be observed that the angles in this figure are, to save room, made more abrupt than they should be on a public railway, where angles of more than 2° or 2½° are considered objectionable. In this arrangement every train from *a* to *b* takes the lower track, and those from *b* to *a* the upper one. Switches of the kind first described are used at the points *a* and *b*, and, as they have always to be passed through in the same order, they are made self-acting, that at *a* being held by springs in the position for guiding carriages on to the lower track, and being opened by the flanges of the engine wheels for the passage of the trains in the contrary direction, while that at *b* in like manner conducts trains passing towards *a* into the upper track. This kind of passing-place has been successfully used on the Newcastle and Carlisle, and other railways. *c d* represents another arrangement for the same purpose, which may have the same kind of switch, but is generally used without any, the impetus of the train always keeping it to the straight track, while if suitable openings be made for the flanges it cannot escape from the rails in running from the double into the single part. *e f* shows the arrangement of a crossing on a railway with two tracks, switches being placed at both junctions, which, being only for occasional use, are worked by hand, men being stationed at *g g* for the purpose. The risk of accident, arising from the neglect or misplacing of the switches, is somewhat reduced by affixing a signal-apparatus to them; which, by

Fig. 18.

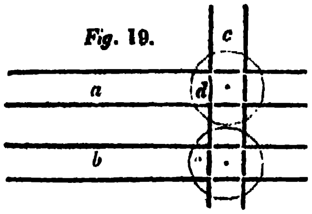


displaying a coloured disc, or lamp, to the engine-driver, indicates their position as he approaches.

At the points where two rails cross, grooves are formed to allow the flanges to pass; and to check any tendency in the wheels to escape from the rails, guard-rails, as indicated in *fig.* 18, are fixed within the track, to guide the inside of the flanges.

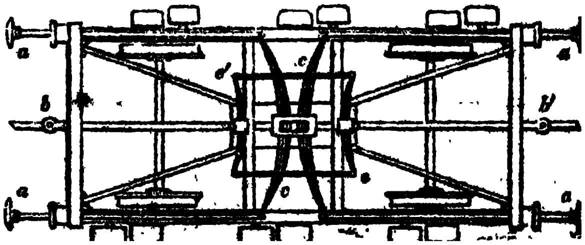
Turn-tables are useful in transferring single carriages from one track to another, which they do in much less space than any arrangement of crossings and switches. They consist of circular platforms of iron and wood, fixed on a level with the tracks, and mounted on friction-wheels, so as to turn on their centres with great facility. *Fig.* 19 represents two turn-tables so laid as to communicate with one another. Four rails are laid across each, and made to tally precisely with those of the track. If it be desired to transfer a carriage from the track *a* to that marked *b*, it is rolled on the turn-table at *d*, and then, the catches which held the turn-table steady being released, the platform, with the carriage upon it, is turned a quarter round. The carriage is then rolled on the turn-table *e*, and being again turned a quarter of a circle, is in a right position for running on the track *b*. Carriages may in like manner be transferred to a cross-track, as at *c*. Locomotive-engine houses are frequently made octagonal, with eight radiating tracks, the engines being moved to or from any of them by means of a large turn-table in the centre.

Fig. 19.



Carriages.—Railway carriages for the conveyance of passengers are usually very capacious, the bodies being made to project over the wheels, which on ordinary lines seldom exceed three feet diameter. This arrangement is not productive of danger, since the evenness of a railway, the comparatively low build of the carriages, and the great weight of the iron wheels, axles, and framing under the body, prevent the liability of overturning. On account of the rapid speed at which they travel, and the violent shocks to which they are occasionally subject, great strength of construction is necessary; and the circumstance of several vehicles being linked together in one train renders the use of an elastic apparatus for starting and stopping them essential. Elasticity in the traction is also necessary, in order that the engine may not have to overcome the inertia of the whole train at the same instant, which would require much more power than suffices, when they are started, to keep the whole in motion. Various contrivances are in use for this purpose, but *fig.* 20 may serve to give a correct idea of the principles on which they all act. It represents the ground-plan of a passenger-carriage, the body being removed. The frame, which is outside the wheels, is supported on lapped springs, which, by brass bushes or bearings, rest on the ends of the axles, they being extended beyond the wheels, and accurately turned, for that purpose. *a a a a* are buffers, or disks of wood or metal, sometimes covered with cushions, fixed on the ends of long rods which pass through the frame and along the sides to the ends of the long springs *c c*, which are capable of moving towards each other when pushed by the rods, but are prevented by stops on the frame from moving in the opposite direction. The centre being allowed to slide backwards and forwards, both springs are brought into action by an impulse given to either end. All the buffers in a train being placed at the same height and width, they come into contact when the carriages run towards one another in stopping suddenly, and the jerk is by them communicated to the springs *c c*, whose elasticity allows so much motion as to prevent any injurious shock to the carriage. The traction apparatus, or that by which the carriages are drawn forward, consists of rods passing through the frame at *b b′*, and connected, in a manner which it is unnecessary to describe, with the small springs *e′ e*, which also act together, the centre of *e* pressing against the cross-bar of the carriage-frame as an abutment, when the pull is from *b*, and that of *e′*, in the like manner, when the traction is in the direction of *b′*. The connection between the different carriages often consists of a jointed bar of iron, which is disunited, when necessary, by the removal of a pin. Chains are sometimes used, and occasionally united by a peculiar kind of screw, which draws the carriages so close that their buffers come in contact. In some carriages the same springs serve both for traction and buffing, and spiral or helical springs are not unfrequently applied to the purpose. Axle-guides, fixed to the framing, are used to keep the axles square; but a more elastic construction of carriage, in which the axles have sufficient play to enable them to adapt themselves to a curved track, and the springs for bearing the weight, drawing, and buffing, are made of an unusually light character, is being introduced by Mr. Adams, with great promise of success. The ordinary first-class carriages convey eighteen passengers, having a treble body, with six seats in each compartment; and the second-class, of similar make, carry twenty-four passengers. Those on the Great Western Railway, which are mostly on six wheels, are much larger, some of the second-class vehicles seating seventy-two persons. Open carriages, in which the passengers stand, are frequently used for short stages. Waggons for goods and cattle, trucks for the conveyance of stage-coaches and private carriages, and horse-boxes, are all mounted on springs, but their buffing apparatus is often very simple and inelastic. The weight of the ordinary passenger-coaches, when empty, is from three to five tons.

Fig. 20.



Locomotive Engines.—Since the successful adoption of locomotive steam-engines on the Liverpool and Manchester Railway, improvements have followed closely upon one another, but they have been chiefly of a minor character, when compared with that of tubing the boiler, which formed the distinguishing feature of the Rocket engine. Stephenson built several engines shortly after the competition in which the Rocket had proved victorious, retaining this arrangement, but having the machinery disposed in a different manner. The cylinders were placed in a box beneath the chimney, and the piston-rods moved horizontally under the boiler, working two cranks formed on the axle of the hind-wheels, which were then made the largest. The boiler and machinery were attached to a massive frame, the sides of which were outside the wheels, and rested, by means of springs and brass bearings, on the ends of the axles. Bearings outside the wheels have this decided advantage over inner ones—which are, nevertheless, preferred by some engineers—that the ends of the axles may be turned away to so small a diameter as materially to diminish the friction, without the risk of breakage which would attend the reduction of the axle within the wheels. The superior economy of large engines becoming evident from experience, it was deemed advisable to add a third pair of wheels, which were made small, like the fore-wheels, and placed under the fire-box end of the machine. The flanges on the two pair of small wheels being sufficient to guide the machine, Stephenson removed them from the central or driving pair, which thus became mere rolling or propelling wheels, and were relieved from the lateral strains arising from the flange coming in contact with the rail at curves and switches; such strains having been found injurious to the cranked axle and the machinery connected with it. Some engine-builders still retain all the flanges, from an idea of greater security. The following figures may give some idea of the locomotive engine in this improved state, in which form it is now in use upon most of the railways in this country, and several on the Continent and in America. *Fig.* 21 is an elevation, and *fig.* 22 a longitudinal section, in which many minute details are omitted, for the sake of distinctness.

Fig. 21.

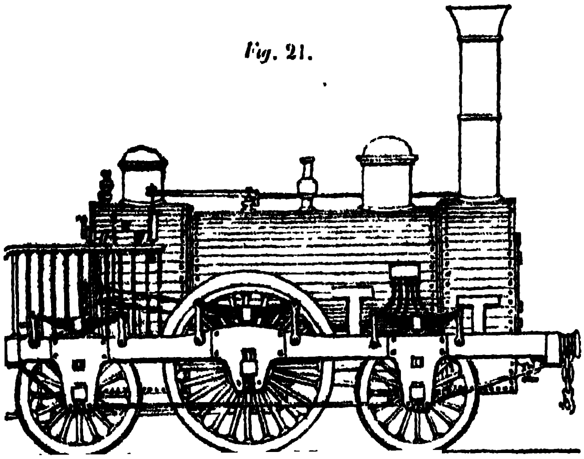
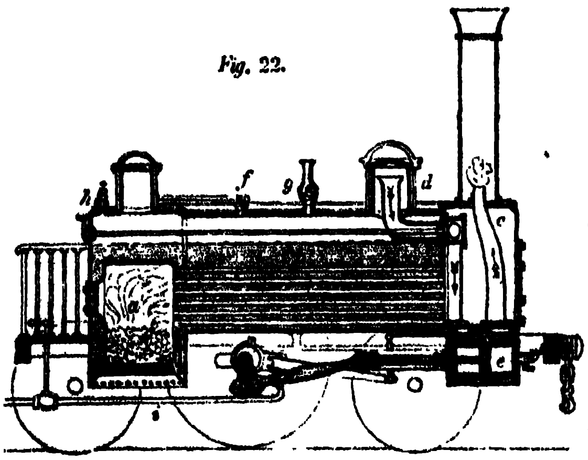


Fig. 22.



a is the fire-box, usually formed of copper, and surrounded by an outer casing of iron, leaving a space of three or four inches all round, which is filled with water, and forms part of the boiler. The door by which the fire is supplied with coke is made of two iron plates, with a space of a few inches between them, to prevent the radiation of heat. Coke is carried in the *tender*,—a supplementary vehicle attached to the back of the engine. The fire-box is usually open at the bottom, to allow the free access of air, so that cinders fall through the bars upon the road,—a circumstance sometimes productive of accident. As there is very little water above the flat top of the fire-box *a*, a fusible plug is inserted in it, to act as a safety-valve in the event of the water becoming too low, and leaving it dry. The tubes through the boiler *b* for the passage of flame and heated air are now always made of brass, which is found much more durable than copper. They vary in number in different engines, from about ninety to a hundred and fifty or upwards, being frequently less than an inch and a half in diameter. The power of generating steam, which is the measure of efficiency in a locomotive engine, depends much upon judicious tubing, it being desirable to deprive the heated air of its caloric as completely as possible before leaving the boiler. The chief practical limit to the reduction of the tubes, and consequent increase of their number and extent of surface, is their liability to become choked with cinders and ashes carried into them by the draft. Boilers are frequently tubed to such an extent that from four to six hundred square feet of heated metal is exposed to the water, in addition to the area of the fire-box itself. An important feature in a locomotive boiler is its security from bursting, because, as the tubes are much weaker than the external casing of the boiler, they are almost certain to give way first, and the bursting of one or two tubes is rarely productive of more serious consequence than extinguishing the fire, and thereby causing a gradual stoppage of the machine.

Owing to the limited size of the boiler, the steam which collects in the upper part is mixed with spray from the water. A steam-chamber *d* is therefore added, in which it becomes free from the spray, and then enters the steam-pipe that passes through the smoke-box *c* to the cylinders or engines at *e*. A throttle-valve in this pipe is placed under the command of the engineer by a rod passing through the boiler and terminating in a handle connected with a graduated scale at the back of the engine. By this the supply of steam to the cylinders is regulated or cut off when necessary. Eccentrics for working the slide-valves, which admit steam alternately to each side of the piston, are fixed on the main crank-axle; and in some engines two pair are used, one for working in common, and the other when the engine runs backwards. The steam cylinders are usually twelve or thirteen inches diameter, and eighteen inches stroke; and the driving-wheels of the engine from five to seven feet diameter, the small wheels being three or four feet.

The pipe shown in the section passing from the cylinders to the chimney is the blast-pipe for the exit of waste steam, its upper end being tapered to give greater effect to the jet. At the top of the chimney a wire-gauze cap is frequently fixed to arrest sparks and small cinders which are often thrown up by the strong draft, and have been the occasion of many destructive fires; but a more effectual remedy has been recently introduced, consisting of a grating at the bottom of the chimney, which stops the cinders before they are affected by the steam-jet.—*f* and *g* are safety-valves held down by springs, the former only being under the control of the engine-driver.—*h* is a steam-whistle, which, by its shrill sound, warns persons working on the line of the approach of an engine.—*i* is one of two feed-pipes, communicating between the water-tank in the tender and small forcing-pumps under the boiler, which are worked by the engine, and ensure an equable supply of water in the boiler. Valves for regulating this supply, handles for reversing the motion of the machine, steam and water gauges, and numerous other conveniences are added, being placed within reach of the engine-driver, when on the platform at the back of the fire-box. In order to economise the heat by checking its radiation, the boiler is coated with wood, and sometimes flannel is placed between them. The steam-dome and similar parts are double, the space between the inner and outer casing answering the same purpose. The tender, and sometimes the engine itself, is supplied with powerful brakes, to arrest the motion of the wheels when necessary. Some of the carriages also have them, and handles for working them are placed within reach of the guards.

Stationary Engines.—Locomotive engines are very expensive to work, on account of their necessarily limited dimensions, and the rapid action of the working parts; while the addition of their own weight to the load to be conveyed, and the injury they cause to the rails, form additional disadvantages, from which stationary engines are exempt. But the smaller cost of working stationary engines is met by a serious drawback,—the friction of the rope used to convey their power to the carriages, and of the sheaves or pulleys upon which it is supported. The use of stationary engines is generally confined to those parts of a railway which are too steep to be conveniently worked by locomotives; but a very ingenious application of them has been introduced for working the London and Blackwall Railway, which appears to possess some important advantages for the working of a short line with numerous stations, as the *through* passengers are not delayed by the stoppage of the train at intermediate stations; each station having a distinct carriage, which stops and starts independently of the rest. To avoid the inconvenience attending the use of ropes is the object of the "atmospheric railway," in which the power of stationary steam-engines is communicated to the train by means of an exhausted tube, instead of a rope. The diminished risk of collision is one advantage attending the use of stationary instead of locomotive engines.

A tabular statement of the principal railways in the United Kingdom, to which some explanatory notes are added below, may appropriately close this paper.

The annexed Table of British railways is far from complete, yet it contains every line of general importance on which the conveyance of passengers by steam power is a principal object, whether such lines are opened or in course of construction. All merely projected lines are excluded, and also a few which have received the sanction of Parliament, but are not likely to be executed at present.* Unless otherwise specified, the railways included in this table are worked by locomotive steam-engines. The number prefixed to each line in the first column is for the convenience of reference, and, when followed by an asterisk, refers to a note on this page. The length given in the fourth column is usually that of the main line, independent of branches, which are often left unnoticed for want of room. The date of opening, in the sixth column, is that of opening throughout; partial openings being mentioned in the additional notes, to which references are inserted. Where the precise date of opening is not known, a dash is inserted in this column; and where it is left blank it indicates that the railway is in progress, but no part of it is complete and in use. The last column gives the gross sum which the company are authorised to raise for the undertaking, of which from one-fourth to one-third is usually procured by loans. The sum here stated often exceeds the actual outlay of the company; as, for instance, when new shares are issued at a discount, or powers are obtained for the construction of branches that are subsequently abandoned. In a few cases the sum actually raised is greater than the parliamentary capital, as mentioned in the notes on the Great Western and London and Birmingham Railways.

EXPLANATORY NOTES TO THE TABLE at p. 80.

1. Leased to No. 30 Company.

2. 38½ m., from Hampton to Derby, opened in 1839.

3. 6½ m. of No. 11, from Cheltenham to Gloucester, used by this company.

5. The length and capital here given include the extension of 2½ m. to Kenyon, though it was formed by a distinct company.

6. Rather more than 9 m. opened February, 1841.

8. Opened from Bristol to Bridgewater, 32½ m., June, 1841. Leased to the Great Western Railway Company.

9. This line commences 7½ m. from Bristol, on a colliery-railway, which is to be widened and improved, and extends to No. 11, at Standish, 7½ m. from Gloucester.

10. Worked by locomotive and fixed engines, and horses.

11. Opened from Swindon to Cirencester, 17 m., May 31, 1841. Leased to No. 22 Company. The part between Gloucester and Cheltenham is also open, and used by No. 3 Company.

13. The company was, in 1840, incorporated with the Grand Junction Railway Company.

14. From the Tees, about 4 m. below Stockton, to No. 50, at Sim Pasture, with many branches, which are included in the length stated. Used chiefly for coal, &c.

15. For minerals and merchandise. Worked chiefly by fixed engines and horses.

18. Opened to Brentwood, 17½ m. in 1840.

19. In progress. Made by No. 35 Company.

20. The length and capital are for the whole line, of which about 4½ m., from Warrington to Newton, were formed by a distinct company.

21. Opened from York to Darlington, 44 m., in 1841. The southern part of the line is formed under an Act passed in 1837.

22. In addition to the parliamentary capital, as given in the Table, the directors have been authorised to borrow 600,000*l.* on loan notes. There have been several partial openings, the latest being May 31, 1841, which left only 13 m. incomplete.

26. Leased, in 1840, to No. 54 Company.

28. The capital in the Table includes 208,000*l.* for a branch at Manchester, to unite with Nos. 37 and 38, which is not yet (June 1841) commenced.

29. Chiefly for minerals. The length in the Table embraces numerous branches, which, with great part of the main line, have been made under an Act of 1835. Part was opened as early as 1833.

30. In addition to the parliamentary capital in the Table, the Directors have been authorised to borrow 250,000*l.* by loan notes.

31. Excepting a quarter of a mile at the London end, this line was opened in July, 1840. It is worked by stationary engines and ropes.

32. A branch of 5½ m., to Shoreham, was opened in 1840, and others are embraced in the Act, but not in progress. The whole of the branches amount to 19½ m.

35. The capital given is exclusive of the Gosport branch.

36. As originally intended, this line was 45½ m. from Manchester to Chebsey, with branches to Crewe and Macclesfield, making 26½ m. more; but it is now proposed to abandon the main line, making only that from Manchester to Crewe, 38½ m., with a branch of 11 m. to Macclesfield. 5½ m., from Manchester to Stockport, were opened in 1840.

38. The distance between Manchester and Leeds, by this line, is 60½ m. Branches to Oldham, Halifax, &c., are intended.

39. Opened for coal, &c., 7½ m. from Maryport, in 1840.

43. Formerly intended to extend to Cambridge. 16 m. opened in 1840.

45. The southern part of the line was formed as a separate undertaking. The statements of length and capital include this, which was called the Wigan Branch Railway.

50. The main line from Witton Park Colliery to Stockton is 28, or to Middlesbrough 32 m., and the total length of the lines specified in the Acts of Parliament is about 40 m. Several additional branches have, however, been made, extending the whole length of railway, in 1838, to about 54 m., of which 28 has a double track. The *parliamentary* capital is only 252,000*l.*, but 450,000*l.* had been expended by the company at the time alluded to. The line is used principally for the conveyance of minerals.

51. Besides the main line of 24½ m., there are about 17 m. of branches, some of which are not yet completed.

52. Though in a forward state, the works are suspended on account of the difficulty of raising the capital required. On part of this line the atmospheric apparatus of Clegg and Samuda has been tried.

53. Worked chiefly by horse power.

56. Projected to extend to Johnstone, 22½ m.; but only 5½ m. of the main line, and 6½ m. of branches, have been made. Improved in 1840, and connected with No. 61.

58. Worked by locomotive and stationary engines. There are railways from this line at Newtyle to Coupar Angus, and to Glammiss.

59. The length given includes branches. This line is worked by horses.

62. This line is chiefly used for the conveyance of minerals, &c. It is connected with the Ballochney, Kirkintilloch, Wishaw and Coltness, and Slamannan Railways, all of which are used in like way, the conveyance of passengers being a minor consideration.

63 and 64. 6½ m., from Glasgow to Paisley, is the joint property of these two companies. The Ayr line is to have a branch to Kilmarnock, and one or two others, amounting to 17½ m.

68. 8 m. of this line, from Belfast to Lisburn, were opened in 1839, and a further portion is in progress. Excepting this and the Drogheda line, the Irish railways may be considered to be in abeyance, though Acts of Parliament have been obtained for the construction of a few more.

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* The reader who is desirous of further information on the Railways of Great Britain and Ireland will find a more complete table in the "Penny Cyclopædia," Art. "Railway," or in the "Companion to the Almanac" for 1841. The latter contains, in chronological order, every railway for which an Act of Parliament has been obtained, whether constructed or not.

PRINCIPAL RAILWAYS OF ENGLAND AND WALES.

No.	NAME.	COURSE, &c.	Length in Miles.	Date of Act.	Date of Opening.	TOTAL CAPITAL.
						£.
1*	Aylesbury	No. 30, at Cheddington, 35 m. from London, to Aylesbury	7	1836	1839	66,000
2*	Birmingham and Derby . .	No. 30, at Birmingham and at Hampton, to Derby .	48½	1836	(2)	1,056,666
3*	Birmingham and Gloucester .	No. 30, at Birmingham, to No. 11, at Cheltenham .	45	1836	1840	1,266,666
4	Bodmin and Wadebridge . .	From near Bodmin to Wadebridge, Cornwall . .	12	1832	1834	35,500
5*	Bolton and Leigh . . .	Bolton to Leigh, and thence to No. 28, at Kenyon .	10	1825	1831	201,750
6*	Bolton and Preston . . .	No. 37, at Bolton, to No. 45 at Euxton . . .	14½	1837	(6)	506,000
7	Brandling Junction . . .	No. 41, at Redheugh, to S. Shields and Monkwearmouth	15¼	1835	1839	400,000
8*	Bristol and Exeter . . .	No. 22, at Temple Mead, Bristol, to Exeter . .	75½	1836	(8)	2,000,000
9*	Bristol and Gloucester . .	See note (9)	22	1839		533,000
10*	Canterbury and Whitstable .	Canterbury to Whitstable Bay	6¼	1825	1830	111,000
11*	Cheltenham and Gt. Western Union	No. 22, at Swindon, through Gloucester, to Cheltenham	43½	1836	(11)	1,000,000
12	Chester and Birkenhead . .	No. 13, at Chester, to the Mersey at Birkenhead . .	14¾	1837	1840	499,999
13*	Chester and Crewe . . .	No. 20, at Crewe, to No. 12, at Chester . . .	20½	1837	1840	458,333
14*	Clarence	See note (14)	36	1828	—	500,000
15*	Cromford and High Peak . .	Cromford, Derbyshire, to Whaley Bridge, Cheshire .	33	1825	1830	197,280
16	Durham and Sunderland . .	Durham to Sunderland. (Worked by stationary engines)	16	1834	1836	326,000
17	Durham Junction . . .	No. 23, at Moorsley, to Usworth, county of Durham .		1834	1838	130,000
18*	Eastern Counties . . .	London, by Colchester, to Norwich and Yarmouth .	126	1836	(18)	2,533,333
19*	Gosport Branch . . .	No. 35, at Bishopstoke, to Gosport	15¾	1839		400,000
20*	Grand Junction . . .	No. 30, at Birmingham, to No. 28, at Newton . .	86½	1833	1837	1,957,800
21*	Great North of England . .	No. 54, near York, to the Tyne at Redheugh . .	76	1836	(21)	1,730,000
22*	Great Western	Paddington, London, to Temple Mead, Bristol . .	117½	1835	(22)	4,999,999
23	Hartlepool	Hartlepool to Moorsley, county of Durham . .	15	1832	1836	492,000
24	Hull and Selby	Humber Dock, Hull, to No. 26, at Selby, Yorkshire .	30¾	1836	1840	533,333
25	Lancaster and Preston Junction .	No. 45, at Preston, to Lancaster	20½	1837	1840	488,000
26*	Leeds and Selby	Marsh-lane, Leeds, to the Ouse, at Selby, Yorkshire .	20	1830	1834	340,000
27	Leicester and Swannington .	The Soar, at Leicester, to Swannington. (Chiefly for coal)	16	1830	1832	175,000
28*	Liverpool and Manchester .	Lime-street and Wapping, Liverpool, to Manchester .	31	1826	1830	1,832,375
29*	Llanelly	Llanelly to Llandibie, Carmarthenshire . . .	26	1828	(29)	270,000
30*	London and Birmingham . .	Euston Grove, London, to No. 20, at Birmingham .	112	1833	1838	5,500,000
31*	London and Blackwall . .	Fenchurch-st., London, to Brunswick Wharf, Blackwall	3½	1836	(31)	1,050,000
32*	London and Brighton . .	No. 33, near Croydon, to Brighton	41½	1837	(32)	2,400,000
33	London and Croydon . .	No. 34, 1¾ m. from London Bridge, to Croydon . .	8¾	1835	1839	741,000
34	London and Greenwich . .	South end of London Bridge, to Greenwich . .	3¾	1833	1838	993,000
35*	London and South-Western .	Vauxhall, London, to Southampton . . .	76¾	1834	1840	2,140,000
36*	Manchester and Birmingham .	Manchester, to No. 20 at Chebsey, and at Crewe .	(36)	1837	(36)	2,800,000
37	Manchester and Bolton . .	Irwell-street, Manchester, to No. 6, at Bolton . .	10	1831	1838	650,000
38*	Manchester and Leeds . .	Manchester, to No. 44, at Normanton, near Wakefield .	50½	1836	1841	3,249,000
39*	Maryport and Carlisle . .	Harbour of Maryport, to No. 41, at Carlisle . .	28	1837	(39)	240,000
40	Midland Counties . . .	No. 30, at Rugby, to Derby, 49 m. & to Nottingh. 47½ m.	57	1836	1840	1,533,000
41	Newcastle and Carlisle . .	Newcastle and Redheugh, to Carlisle . . .	61	1829	1839	1,250,000
42	Newcastle and North Shields .	Pilgrim-street, Newcastle, to North Shields . .	6¾	1836	1839	320,000
43*	Northern and Eastern . .	No. 18, at Stratford, to Bishop's Stortford . . .	30	1836	(43)	1,200,000
44	North Midland . . .	Nos. 2 and 40, at Derby, to Hunslet-lane, Leeds . .	72½	1836	1840	3,400,000
45*	North Union	No. 28, at Parkside, by Wigan, to Preston . . .	22½	1831	1838	730,000
46	Preston and Wyre . . .	No. 25, at Preston, to Fleetwood-on-Wyre . .	19½	1835	1840	400,000
47	Sheff., Ashton-under-L., & Manch.	Spital Fields, Sheffield, to No. 36, at Manchester .	40	1837		933,000
48	Sheffield and Rotherham . .	Brightside, Sheffield, to Rotherham, and to No. 44 .	5½	1836	1838	200,000
49	South-Eastern	No. 32, at Red-hill, 20 miles from London, to Dover .	66	1836		1,850,000
50*	Stockton and Darlington . .	Stockton, by Darlington, to Witton Park Colliery .	28	1821	1825	Note (50)
51*	Taff Vale	Merthyr Tydvil to the Port of Cardiff . . .	24½	1836	1841	620,000
52*	West London	Nos. 22 and 30, near Holsden-green, to Kensington .	3	1836	(52)	280,000
53*	Whitby and Pickering . .	Whitby Harbour to Pickering, N. R. of Yorkshire .	24	1833	1836	135,000
54	York and North Midland . .	Tanner-row, York, to No. 44, at Altofts, W.R. of Yorksh.	23¾	1836	1840	669,999

SCOTLAND.

No.	NAME.	COURSE, &c.	Length in Miles.	Date of Act.	Date of Opening.	TOTAL CAPITAL.
55	Arbroath and Forfar . .	No. 57, at Arbroath, to Forfar	15¼	1836	1839	160,000
56*	Ardrossan	Ardrossan Harbour to Kilwinning, Ayrshire . .	5½	1827	—	106,666
57	Dundee and Arbroath . .	Trades-lane, Dundee, to No. 55, at Arbroath Harbour .	16¾	1836	1840	140,000
58*	Dundee and Newtyle . .	North side of Dundee to Newtyle, Forfarshire . .	10½	1826	1831	170,000
59*	Edinburgh and Dalkeith . .	Edinburgh, by Dalkeith, to Newbattle . . .	15	1826	1831	208,753
60	Edinburgh and Glasgow . .	Haymarket, Edinburgh, to North Queen-street, Glasgow	46	1838		1,200,000
61	Edinburgh, Leith, and Newhaven	Princes-street, Edinburgh, to Trinity Harbour . .	2½	1836		140,000
62*	Garnkirk and Glasgow . .	Glasgow, by Garnkirk, to Cargill Colliery . .	8¼	1826	1831	169,195
63*	Glasgow, Paisley, and Greenock .	Near Glasgow-bridge, through Paisley, to Greenock .	22½	1837	1841	666,666
64*	Glasgow, P., Kilmarnock, & Ayr	Near Glasgow-bridge, through Paisley, to Ayr . .	40	1837	1840	833,000
65	Paisley and Renfrew . .	Paisley to the Clyde, at Renfrew-ferry . . .	3½	1835	1837	33,000

IRELAND.

No.	NAME.	COURSE, &c.	Length in Miles.	Date of Act.	Date of Opening.	TOTAL CAPITAL.
66	Dublin and Drogheda . .	Custom-house quay, Dublin, to Drogheda . . .	32	1836		600,000
67	Dublin and Kingstown . .	Westland-row, Dublin, to Kingstown Harbour . .	5½	1831	1834	270,000
68*	Ulster	Belfast, by Lisburn and Portadown, to Armagh . .	36	1836	(68)	800,000

HISTORY OF THE CORN-LAWS.

BY J. C. PLATT.

OF all the great economical questions of the present day, there is none so important as that which concerns an abundant supply of corn. The population of Great Britain is now twice as great as it was fifty years ago, and may be estimated at 19,000,000, while it is increasing at the rate of about 285,000 every year. At the same time, there never before existed a state of society in which so large a proportion of the population obtained a share of the produce of the soil by the exercise of non-agricultural industry; only about one-third of the total population being directly engaged in agriculture. The gigantic progress of manufactures is indicated by the rapid increase of the population in those counties in which they are chiefly established. From 1700 to 1831 the population of Lancashire increased 800 per cent.; Warwickshire 251 per cent.; Staffordshire 250; Nottinghamshire 246; Cheshire 212 per cent.; and in other counties the increase varied from 119 to 136 per cent. The total population of ten manufacturing counties was 2,529,000 in 1800, and 4,106,000 in 1831. The principal agricultural counties only increased 84 per cent. in the period from 1700 to 1831. There is a constant stream of immigration into the large towns and manufacturing districts from the adjacent agricultural counties. From 1821 to 1831 the immigration into Lancashire proceeded at the rate of 17,000 a-year. In 1837 above 2000 persons were removed to the places of manufacturing industry from Suffolk, at the expense of their respective parishes. Of this number, 1675 were paupers, who had received a sum of 1953*l.* in the twelve months prior to their removal. On the one hand, in the rural districts, we have a population fully equal to the existing demand for its labour, and requiring outlets for the increase of its numbers; and on the other, in the manufacturing districts, there is a population whose consumption confers a much higher value upon agricultural produce, and where, by extending the field of employment, room is made both for the expansion of the agricultural and non-agricultural population.

The improvements in agriculture within the present century have greatly increased the supply of food, but the experience of many years has shown that our population is now, to a great extent, dependent upon the corn-growers of other countries; and that, when the crops in Great Britain are below an average, and even when they are not abundant, the rise of prices creates severe distress among large masses of the population, unless the supply of corn and grain is increased by importation. This distress could not be avoided if all the waste lands of England capable of improvement were taken into cultivation. In an old country, where all the best, and even the moderately fertile soils have long been cultivated, the resort to those of inferior powers of production, so far from alleviating the distress of the population, will hasten its poverty and degradation. This, therefore, is not one of the resources to which any country must look as a means of obtaining a permanent supply of food.

In the following sketch we shall pass in review the various regulations under which the trade in corn and grain has been placed at different periods. We shall begin with those historical details which are necessary to be known in order that we may understand what the corn-laws are—what they are as at present established, and out of what previous circumstances and enactments those now in force have grown.

England exported a considerable quantity of grain annually; and, 2nd, When she ceased to be an exporting, and became solely an importing country. In these two periods there occur epochs of a sufficiently distinct character to allow of the subject being treated in smaller divisions, to each of which belongs some peculiarity that distinguishes and separates it from the rest.

First Period.—From Early Times to 1688.

Little practical advantage would arise from bestowing much space on the former part of this period. In a statute of the thirteenth century we find the average prices of wheat and other grain had become an object of attention. The following directions are given to the municipal authorities of towns in the statute entitled *Judicium Pilloriæ*, supposed to be of the date of 51 Henry III. (1266-7):—"First, they shall inquire the price of wheat, that is to wit, how a quarter of the best wheat was sold the last market-day, and how the second wheat, and how the third; and how a quarter of barley and oats." In 1360 the exportation of corn was prohibited by statute.* In 1393 corn might be exported by the king's subjects "to what parts that please them," except to the king's enemies. "Nevertheless," it is added, "the king wills that his council may restrain the said passage when they shall think best for the profit of the realm.† This act was confirmed in 1425.‡

Thus it appears that in those early times sufficient grain was raised in England to admit of exportation. It was, however, the policy of that age to endeavour, as much as possible, to retain within the kingdom all those things which were indispensable to its wants, rather than by permitting freedom of export and import to trust to the operation of the commercial principle for an adequate supply. The excess of grain must have been very considerable to have allowed any deviation from the ordinary practice of restriction. In the fourteenth century it seems to have been no unusual practice for the different countries of Europe to export corn;§ and it must have been exported from England previous to the statute of 1360, as that act was intended to put a stop to it. Thirty-three years afterwards, as already stated, the export of corn was expressly encouraged.

In 1436 there is another statute indicative of the progress of agriculture, and of the existence of a surplus supply of corn in this country; the exportation of wheat being allowed without the king's licence when the price per quarter at the place of shipment was 6*s.* 8*d.* In the preamble of the statute the restrictions on exportation are loudly complained of:—"for cause whereof, farmers and other men which use manurement of their land, may not sell their corn but of a bare price, to the great damage of all the realm;" and the remedy provided is a freer permission to export the surplus - a regulation which is intended for the profit of the whole realm, but "especially for the counties adjoining to the sea."‖ In 1441 this statute was continued,¶ and in 1444-5 it was rendered perpetual.**

Nearly thirty years after the statute of 1436, occurs the first symptom of a corn-law, for the protection of the home-grower from the effects of a supply of foreign grain. From this we may conclude that the balance of prices had turned; and that, at least for a time, prices were higher in England than in the neighbouring countries. This might be the result of abundant seasons on the Continent; but, at all events, the importation from other countries gave rise to complaints, which were followed by a statute passed in 1463, in the preamble of which it is remarked that, "Whereas the labourers and occupiers of husbandry within this realm be daily grievously endamaged by bringing of corn out of other lands and parts into this realm when corn of the growing of this realm is at a low price;"* in remedy of which it was enacted that wheat should not be imported unless the price at the place of import exceeded 6*s.* 8*d.* per quarter. Up to this time there is no reason to believe that the importation of corn from abroad had been either prohibited or subjected to restriction. Such a prohibition would have been opposed to the spirit of our old commercial policy, which was anxiously directed to the object of attracting to the country, and preserving within it, as much food as possible. The agricultural interest had already succeeded in carrying one modification of the old principle, by which they obtained the liberty of sending corn abroad, and their ascendency was still further indicated by the restriction on the importation of corn imposed by the statute of 1463. So long as the price of wheat was below 6*s.* 8*d.* per quarter, exportation was free, and importation was prohibited. The price, therefore, was intended to be sustained at that height, so far as it was possible so to sustain it by legislative contrivance; and the benefit of the corn-grower was the sole object of the statute. In 1474 (eleven years after the statute 3 Edw. IV. c. 2, was passed) we have the authority of the Paston Letters in proof of the suffering experienced from the want of a market for the superabundant supply of grain. Margaret Paston, writing to her son on the 29th of Jan. 1474, after quoting the very low price of corn and grain, says—"There is none outload suffered to go out of this country as yet; the king hath commanded that there should none go out of this land. I fear me we shall have right a strange world: God amend it when his will is."† In a letter written in the following year she makes the same complaints about low prices and the scarcity of money.‡ The gentry and farmers of this period were in much the same condition in regard to money matters as the landowners of Poland and other parts of northern and eastern Europe at the present time, after abundant harvests, with the ports of the best markets temporarily or permanently closed against the admission of their surplus produce. The protective statute of 1463 had possibly stimulated tillage beyond the demand of the home market, and the abundance of the harvest in other countries caused the ports to be closed against them, or, as in the instance alluded to by Margaret Paston, exportation was prohibited from some motives of state policy.

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* 34 Edw. III. c. 20. † 17 Ric. II. c. 7. ‡ 4 Hen. VI. c. 5.

§ Account of the Spasmodic Cholera of the Fourteenth Century;

In 1533-4 an end was put to the system of free exportation which had been established in 1463, and, with some few occasional exceptions, had continued from that time; and thenceforth it was forbidden to export corn and provisions without the king's licence. The statute enacted for this purpose § was intended to keep down prices, though the preamble sets out with the rational observation that, "forasmuch as dearth, scarcity, good cheap [good market], and plenty [of victual], happeneth, riseth, and chanceth, of so many and divers reasons that it is very hard and difficult to put any certain prices to any such things." It however ended by enacting that, on complaint being made of high prices, they shall be regulated by the lords of the council, and made known by proclamation; and that farmers and others shall sell their commodities at the prices thus fixed.

During the greater part of the sixteenth century a struggle was maintained by the makers of the laws against the rise of prices which characterised nearly the whole of that period. The discouragement of tillage and the increase of sheep-pastures were supposed to be the main causes of this rise. In 1533 a statute was passed which enacted that no man should keep more than two thousand sheep, except on his own land, and that no tenant should rent more than two farms.* The statute entitled "An Act for the Maintenance and Increase of Tillage and Corn" attempted to force cultivation by enacting that for the future at least as much land should be tilled in every parish as had been under the plough at any time since the accession of Henry VIII., under a penalty, to be exacted from the parish, of 5*s.* for every acre that should be deficient.

This remarkable period in the history of agriculture, and in the social condition of the people, was marked by other singular regulations respecting the supply of the necessaries of life and their price. In September, 1549, a proclamation was issued directed against dealers in the principal articles of food. According to it, no man was to buy and sell the self-same thing again, except brokers, and they were not to have more than ten quarters of grain in their possession at one time. This proclamation directed "that all justices should divide themselves into the hundreds, and look what superfluous corn was in every barn, and appoint it to be sold at a reasonable price; also, that one must be in every market-town to see the corn bought. Whoso brought no corn to market, as he was appointed, was to forfeit 10*l.*, unless the purveyors took it up, or it was sold to the neighbours."† Obedience to these regulations was not confined to the temporary provisions of a proclamation; but in 1551-2 they were, with some modifications, embodied in a statute.‡ By this enactment, engrossers (persons buying corn to sell again) were subjected to heavy penalties. For the third offence they were to be set in the pillory, to forfeit their personal effects, and to be imprisoned during the king's pleasure. Farmers buying corn for seed were compelled to sell at the same time an equal quantity of their corn in store, under penalty of forfeiting double the value of what they had bought. Persons might engross corn, not forestalling it—that is, enhancing the price or preventing the supply—when wheat was under 6*s.* 8*d.* per quarter.

In 1562-3 a further attempt was made to restrict the operations of buying and selling in articles of food, as well as many other commodities. The 5 and 6 Edw. VI. c. 14, already quoted, contained a proviso that corn-badgers, allowed to that office by three justices of the peace of the county where the said badger dwelt, could buy provisions in open fair or market for towns and cities, and sell them, without being guilty of the offence of forestalling; but this relaxation of the statute was corrected by another statute passed in 1562-3,§ in the preamble of which the former enactment is thus alluded to:—"Since the making of which act such a great number of persons, seeking only to live easily and to leave their honest labour, have and do daily seek to be allowed to the said office, being most unfit and unmeet for those purposes, and also very hurtful to the commonwealth of this realm, as well as by enhancing the price of corn and grain, as also by the diminishing of good and necessary husbandmen." It was then enacted that the licences to corn-badgers should only be granted once a-year by the justices at quarter sessions, instead of at any period by three justices; and that none were to obtain a licence but resident householders of three years' standing, who are or have been married, and of the age of thirty, and are not servants or retainers to another person. Those who received a licence were to have it renewed at the end of every year. Licensed persons were also required to find security not to forestall or engross in their dealings, and not to buy out of open fair or market, except under express licence. The statute did not apply to the counties of Westmoreland, Cumberland, Lancaster, Chester, and York.

It was scarcely possible for the legislature to do more towards the discouragement of a most useful class of men, whose operations are of such service to society in general, and to the poor in particular. But enactments of this de-

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[*] 3 Edw. IV. c. 2.

[†] Paston Letters, vol. ii. p. 91. Edit. by A. Ramsay.

[illegible]

[*] 25 Hen. VIII. c. 18. [†] King Edw. VI.'s Journal; Sharon Turner's [illegible] 179. [‡] 5 and 6 Edw. VI. c. 14. [§] 5 Eliz. c. 12

scription were loudly demanded by the people, who could scarcely get bread sometimes in consequence of the high price of provisions, which they attributed to the intervention of the corn-dealer between the producer and consumer.

The system introduced in 1534, under which exportation was interdicted, lasted about twenty years, and even during that period was most probably in a great degree inoperative.

In 1554 a new act was passed,* which restored the freedom of export so long as the price of wheat should not exceed 6*s.* 8*d.*, that of rye 4*s.*, and that of barley 3*s.* per quarter. The preamble complains that former acts against the exportation of grain and provisions had been evaded, by reason whereof they had grown unto a "wonderful dearth and extreme prices." Under the present act, when prices exceeded 6*s.* 8*d.* per quarter for wheat, exportation was to cease: and when it was under that price it could not be exported to any foreign country, or to Scotland, without a licence, under penalty of forfeiting double the value of the cargo as well as the vessel, besides imprisonment of the master and mariners of the vessel for one year. The penalty for exporting a greater quantity than was warranted by the licence was treble the value of the cargo, and imprisonment; and a cargo could be taken only to the port mentioned in the licence. The object of the act was in effect to prevent exportation when there was not a sufficient supply in the home market, and to permit it to be sent abroad so long as it was below a certain price at home.

In 1562, only eight years after the above act had been passed, the liberty of exportation was extended, and wheat might be carried out of the country when the average price was 10*s.* per quarter, that of rye, peas, and beans 8*s.*, and that of barley or malt 6*s.* 8*d.* per quarter.† The better to prevent evasion of the law, it was at the same time enacted that the commodity should only be exported from such ports as her Majesty might by proclamation appoint.

In 1571 a statute was passed‡ which contains provisions for settling once a-year the average prices by which exportation should be governed. The Lord President and Council in the North, also the Lord President and Council in Wales, and the Justices of Assize, within their respective jurisdictions, "yearly shall, upon conference had with the inhabitants of the country, of the cheapness and dearth of any kinds of grain," determine "whether it shall be meet at any time to permit any grain to be carried out of any port within the said several jurisdictions or limits; and so shall, in writing, under their hands and seal, cause and make a determination either for permission or prohibition, and the same cause to be, by the sheriff of the counties, published and affixed in as many accustomed market-towns and ports within the said shire as they shall think convenient." The averages, when once struck, were to continue in force until the same authorities ordered otherwise; and if their regulations should "be hurtful to the country by means of dearth, or be a great hindrance to tillage by means of too much cheapness," they could make the necessary alterations. All proceedings under this act were to be notified to the queen or privy council. The statute enacted that, "for the better increase of tillage, and for maintenance and increase of the navy and mariners of this realm," corn might be exported at all times to friendly countries, when proclamation was not made to the contrary. A poundage or customs' duty of 1*s.* per quarter was charged on all wheat exported; but if exported under a special licence, and not under the act, the customs' duty was 2*s.* per quarter.

The law of 1463, which prohibited importation so long as the price of wheat was under 6*s.* 8*d.*, that of rye under 4*s.*, and that of barley under 3*s.* the quarter, appears not to [illegible] have remained inoperative.

In 1592-3 the price at which exportation was permitted was raised to 20*s.* per quarter, and the customs' duty was fixed at 2*s.** In 1603-4 the importation price was raised to 26*s.* 8*d.* per quarter;† and in 1623, to 32*s.*‡—having risen, in the course of sixty-five years, from 6*s.* 8*d.* By the 21 Jac. I., c. 28, unless wheat was under 32*s.* per quarter, and other grain in proportion, buying corn and selling it again was not permitted. The King could restrain the liberty of exportation by proclamation. In 1627-8 another statute§ relative to the corn-trade was passed, which, however, made no alteration in the previous statute of James I. In 1660 a new scale of duties was introduced. When the price of wheat per quarter was under 44*s.*, the export duty was 5*s.* 6*d.*; and when the price was above 44*s.*, the duty rose to 6*s.* 8*d.* Exportation was permitted free whenever the price of wheat did not exceed 40*s.* per quarter.‖

In 1663 the corn-trade again became the subject of legislation, and an act was passed¶ which favoured the corn-grower, or at any rate that portion of the community connected with and dependent upon agriculture, to a greater extent than any previous statute. The preamble of this act commenced by asserting that "the surest and effectualest means of promoting and advancing any trade, occupation, or mystery, being by rendering it profitable to the users thereof," and that large quantities of land being waste, which might be profitably cultivated if sufficient encouragement were given for the cost and labour on the same, it should be enacted, with a view of encouraging the application of capital and labour to waste lands, that, after September, 1663, when wheat did not exceed 48*s.* per quarter at the places and havens of shipment, the export duty should be only 5*s.* 4*d.* per quarter. The demand of the home market was not sufficient to take off the surplus produce of the corn-growers, and the reduction of the duty was intended to encourage exportation. By the same act, when wheat did not exceed 48*s.* per quarter, "then it shall be lawful for all and every person (not forestalling nor selling the same in the open market within three months after the buying thereof) to buy in open market, and to keep in his or their granaries or houses, and to sell again, such corn and grain," any statute to the contrary notwithstanding. The latter part of this statute may be regarded as indicating a juster view than others passed since the 5 and 6 Edw. VI. c. 14.

In 1670 a further important change was made in the same direction, exportation being permitted as long as wheat should be under 53*s.* 4*d.* the quarter, the customs' duty being only 1*s.* per quarter. Corn imported from foreign countries was at the same time loaded with duties so heavy as effectually to exclude it, being 16*s.* when the price in this country was at or under 53*s.* 4*d.* per quarter, and 8*s.* when above that price and under 80*s.*, at which latter price importation became free.** The object of this act was to relieve the agricultural interests from the depression under which they were labouring from the low prices of produce which had existed for twenty years, more particularly from 1646 to 1665, and also more or less during the greater part of the century. Between 1617 and 1621 wheat fell from 43*s.* 3*d.* the quarter to 27*s.*, in consequence of which farmers were unable to pay their rents. The low price was occasioned by abundant harvests; "for remedy whereof the Council have written letters into every shire, and some say to every market-town, to provide a granary or storehouse, with a stock to buy corn, and keep it for a dear year."†† The cheapness of wheat was attended with the good effect of raising the standard of diet amongst the poorer classes, who are described as "traversing the markets to find out the finest wheats, for none else would now serve their use, though before they were glad of the coarser rye- [illegible] appears to have answered.

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* Arthur Young's 'Political Arithmetic,' 1774.

‡ Wealth of Nations, Book IV. chap.

being attained that the contrary hath ensued;"* and he speaks of a great diminution of cultivation.

The harvests of 1673-4-5 proved defective, and the same result occurred in 1677-8, so that the average price of the seven years ending 1672, during which wheat ranged at 36*s.* the quarter, was followed in the seven subsequent years, ending 1679, by an average of 46*s.*, being a rise of nearly 30 per cent. Under this encouragement there was a considerable extension of tillage, and the years of scarcity being followed by twelve abundant seasons in succession (with the exception of 1684, which was somewhat deficient), the price of corn and grain again sunk very low. In the six years ending 1691 the average price of wheat was 29*s.* 5*d.* the quarter, and if the four years ending 1691 be taken, the average price was only 27*s.* 7*d.*, being lower than at any period during the whole of the century. There was no competition in the English market with the foreign grower during the above-mentioned years of low prices; exportation was freely permitted on payment of a nominal duty; but scarcely ever had the agriculturists been in so depressed a state. The means which they took to relieve themselves will be noticed in the next period.

Before closing this section we may notice the alteration which took place in 1670 in the mode of striking the average prices of corn and grain. The old system established in 1570 (13 Eliz. c. 13) was acted upon until 1685, the Corn Act of 1670 having neglected the necessary directions for an alteration. These were made by a statute which enacted that justices of the peace, in counties wherein foreign corn might be imported, may, at quarter-sessions, by the oaths of two persons duly qualified, that is, possessed of freehold estates of the annual value of 20*l.*, or leasehold estates of 50*l.*, and not being corn-dealers, and by such other means as they shall see fit, determine the market-price of middling English corn, which is to be certified on oath, hung up in some public place, and sent to the chief officer at the custom-house in each district.

Second Period.—From 1689 to 1773.

In 1689, immediately after the Revolution, the landowners succeeded in carrying a very important measure. The high prices of the seven years ending 1679 had doubtless encouraged tillage, and a succession of favourable seasons had under these circumstances led to a great depreciation in the value of agricultural produce. Exportation of corn therefore was not only to be permitted as heretofore, but actually encouraged by bounties. The statute for granting bounties is entitled "An Act for Encouraging the Exportation of Corn."† The preamble stated that it had been "found by experience that the exportation of corn and grain into foreign countries, when the price thereof is at a low rate in this kingdom, hath been a great advantage, not only to the owners of land, but to the traders of this kingdom in general;" and clauses were enacted granting 5*s.* the quarter on the exportation of wheat, so long as the home price did not exceed 48*s.*; with other bounties of smaller amount upon the exportation of barley, malt, and rye. It was supposed that the farmers and landholders would thus be relieved from the distress arising from low prices. They were in possession of a market the sole supply of which they had secured to themselves by the act of 1670, and by the Bounty Act they endeavoured to prevent that market being overstocked by their own commodity.

The seven years immediately succeeding 1693 were remarkable for a succession of unfavourable seasons. In the four years ending 1691 the price of wheat averaged 27*s.* 7*d.* the quarter, but in the four years preceding and including 1699 it reached 56*s.* 6*d.* The bounty was inoperative during this period, and was suspended by an act of Parliament from the 9th of February, 1699, to the 29th of September, 1700. Nevertheless, in order that no fears might

tained an acknowledgment that the statute granting the bounty "was grounded upon the highest wisdom and prudence, and has succeeded to the greatest benefit and advantage to the nation by the greatest encouragement of tillage."* Before this temporary act had expired, another act was passed,† in 1700, by which the encouragement of the home corn-grower was carried still further by the abolition of all the then existing duties on the export of corn. "From 1697 to 1773 the total excess of exports was 30,968,366 quarters, upon which export bounties, amounting to 6,237,176*l.*, were paid out of the public revenue."‡ In 1750 the sum of 324,176*l.* was paid in bounties on corn. The exports of 1748-9-50 (during which, moreover, the price of wheat fell from 32*s.* 10½*d.* to 28*s.* 10¾*d.* the quarter) amounted to 2,120,000 quarters of wheat, and of all kinds of corn and grain to 3,625,000 quarters. This was the result of a cycle of abundant years. In the twenty-three years from 1692 to 1715, says Mr. Tooke, in his elaborate 'History of Prices,' there were eleven bad seasons, during which the average price of wheat was 45*s.* 8*d.* the quarter; in the fifty years ending 1765 there were only five deficient harvests, and the average price for the whole half-century ranged at 34*s.* 11*d.*; or, taking the ten years ending 1751, during which the crops were above an average, the price of wheat was only 20*s.* 2½*d.* the quarter.

These years of plenty seem to have been a very happy period to the bulk of the population. Adam Smith refers to "the peculiarly happy circumstances" of the country during these times of plenty; and Mr. Hallam describes the reign of George II. as "the most prosperous period that England had ever experienced." The effect was similar to that which took place during the plentiful seasons of the preceding century, and the improved condition of the people was marked by the enjoyment of greater comforts and the resort to a superior diet which their command over the necessaries of life enabled them to obtain. "Bread made of wheat is become more generally the food of labouring people," observes the author of the 'Corn Tracts,' writing in 1765. Referring to the same period, Mr. Malthus remarks:—"It is well known that during this period the price of corn fell considerably, while the wages of labour are stated to have risen. During the last forty years of the seventeenth century, and the first twenty of the eighteenth, the average price of corn was such as, compared with the wages of labour, would enable the labourer to purchase with a day's earnings two-thirds of a peck of wheat. From 1720 to 1750 the price of wheat had so fallen, while wages had risen, that, instead of two-thirds, the labourer could purchase the whole of a peck of wheat with a day's labour." Mr. Malthus adds that the result of this increased command over the necessaries of life was not attended with an increase of population exclusively,—"a considerable portion of their increased net wages was expended in a marked improvement of the quality of the food consumed, and a decided elevation in the standard of their comforts and conveniences." Trade was flourishing, and the exports and imports progressively increasing during this period of abundance.

The cycle of good seasons which the country had for so long a period fortunately enjoyed (for twenty-six years, from 1730 to 1755, there had been only one unfavourable season), was followed by a succession of bad years, in which the harvests proved as deficient as they had before been abundant. From 1765 to 1775 there was a very frequent recurrence of unfavourable years, and the last five years of this period were all of this character. In 1766 the quartern loaf was selling in London at 1*s.* 6*d.*; addresses were sent up from various parts of the country complaining of general distress; and a proclamation was issued suspending exportation, and for enforcing the laws against forestallers and regraters. Exportation was suspended also in the following year, as was the case also in 1770 and 1771. In 1772 im-

and in this latter year the city of London offered a bounty of 4*s.* per quarter for 20,000 quarters of wheat to be imported between March and June. The average prices of wheat had risen from 29*s.* 2½*d.* in the ten years ending 1751 to 51*s.* for the ten years ending 1774, being an advance of 75 per cent. The excess of exports from 1742 to 1751 had been 4,700,509 quarters of wheat, and, including all kinds of grain, had amounted to 8,869,190 quarters, but from 1766 to 1775 there was an excess of imports to the extent of 1,363,149 quarters of wheat and 3,782,734 of corn and grain of all kinds. The old corn-law of 1689, under which a bounty on exportation had been granted, was now become a dead letter in consequence of the high range of prices in the home market. The right to export had been frequently suspended, though only for short periods, in the hope that more plentiful harvests, or the greater extension of tillage, would again bring back the old state of things. These suspensions of the bounty excited the dissatisfaction of the agriculturists. "From the year 1766 to the present time (1773) we have had a perpetual shifting policy, in which nothing has been permanent. . . . . Every year has produced a temporary act suspending the operation of those laws which had proved of such excellent utility."*

The increase of population after the peace of 1763 was rapidly advancing with the growth of trade and manufactures. In the reign of George I. there had only been sixteen enclosure acts passed; in the succeeding reign there were 226; but, stimulated by the high prices resulting from deficient harvests, the number of such acts from 1760 to 1772 inclusive amounted to 585. The population of England and Wales had increased upwards of two millions during the century, being, according to the best estimates, 5,134,000 at its commencement, and in 1770 about 7,227,000. In the first *fifty* years of the century the increase of population amounted only to 17 per cent., but in the *twenty* years ending 1770 the rate of acceleration was more than doubled, being 19 per cent.

Before passing to the next epoch in the history of the corn-trade, we shall notice the alterations which took place in the mode of ascertaining the average prices of corn and grain. Several acts for this purpose were made; in one of which, passed in 1729, the preamble states that the justices of the peace had "neglected to settle the price of corn at their quarter-sessions after Michaelmas last, and to return certificates thereof to the chief officer and collector of the customs residing in the respective ports where the said corn or grain has been or may be imported; by means whereof the said officers were at a loss how to charge the customs and duty due for such corn; which has been, and may be, a great loss to the revenue, and a detriment to the farmers and fair traders." To remedy the negligence of the gentry, the collectors of customs were empowered to settle the averages.

In 1732 an attempt was again made "for the better ascertaining the common prices of middling English corn and grain, and for preventing the fraudulent importation of corn and grain." After 1st June, 1732, the justices of the peace, in counties which contained ports of importation, were to charge the grand jury at quarter-sessions to make inquiry and presentment upon oath of the common market prices, which were to be certified to the officers at the ports specified. The averages were, however, only to be taken four times a-year.

In 1766 the authorities of the city of London were empowered to settle the price of middling English corn and grain in January and July, in addition to the former periods of April and October.

It was not until 1770 that returns of prices were directed to be made weekly. In that year an act was passed, on the ground that a "register of the prices at which corn is sold in the several counties of Great Britain will be of public and general advantage." The justices of the peace were to order returns to be made weekly of the prices of British corn and grain from such towns in each county as they thought proper; the number of towns selected in each county not being more than six nor less than two. The Treasury was to appoint a receiver of corn returns, who was to publish an abstract of the weekly returns in the 'London Gazette,' and four times a-year certify to the clerks of the peace the prices which were respectively prevalent in each county. The publication of the averages weekly was a most beneficial innovation.

In 1772 an important act* was passed relating to the internal corn-trade, and several ancient restrictions in old statutes were removed on the ground that, "by preventing a free trade in the said commodities, [corn, flour, cattle, &c.] they have a tendency to discourage the growth and enhance the price of the same, which statutes, put into execution, would bring great distress on the inhabitants of many parts of the kingdom."

Third Period.—From 1773 *to* 1791.

In the preamble of the Corn Act of 1773† it is acknowledged that previous laws had greatly tended to the advancement of tillage and navigation. It added that, on account of the small supplies on hand and scanty crops, it had been frequently necessary to suspend the operation of the laws; and that a permanent law on the corn-trade "would afford encouragement to the farmer, be the means of increasing the growth of that necessary commodity, and of affording a cheaper and more constant supply to the poor." And the act then fixes the following scale of duties, to come into operation on the 1st of January, 1774:—Whenever the price of middling British wheat, at ports of importation, was at or above 48*s.* per quarter, a duty of only 6*d.* per quarter was to be taken on all foreign wheat imported during the continuance of that price. When the price was at or above 44*s.*, exportation and the bounty together were to cease; and the carrying of British grain coast wise ceased also. Under this act, corn and grain might be shipped to Ireland when exportation was prohibited from that country. Foreign corn warehoused under bond in twenty-five ports of Great Britain mentioned in the act might be re-exported duty free. Adam Smith's opinion of this act was, that "though not the best in itself, it is the best which the interests, prejudices, and temper of the times would admit of: it may perhaps (he adds) in due time prepare the way for a better."‡ This expectation has not as yet been fulfilled.

The home market was now opened to foreign supplies of corn under much more advantageous terms than before. Importation was constant and considerable, and prices were steadier on the whole, during the eighteen years from 1775 to 1792—notwithstanding the occurrence of five seasons in which the harvests were more or less deficient—than they had been in the ten years preceding 1773. The balance of imports of wheat was now decidedly against this country. In the ten years ending 1769 the excess of exports had amounted to 1,381,561 quarters; but in the next ten years, ending 1779, the excess was on the side of the imports to the extent of 431,566 quarters: and in the ten years ending 1789 there was an excess on the same side amounting to 233,502 quarters. The extension of tillage which took place was certainly more likely to be permanent than when it had been caused by the artificial stimulus that had previously been maintained. From 1760 to 1780 the number of acres enclosed under local acts was 1,912,350; in the ten years ending 1789 the proportion had fallen off, the number of acres enclosed being 450,180. The average price of wheat was 45*s.* the quarter in the ten years ending 1779, and 45*s.* 9*d.* in the ten years ending 1789. The extension of cultivation in the twenty years from 1760 to 1780, together with the improvement of agriculture, sufficed for the increased demands of the country, without breaking up so much fresh land.

The landed interest, however, alleged that the act of 1773 had rendered England dependent upon other countries for the supply of corn. The bounty by which the corn-growers had formerly profited, and which they were led to anticipate would still be secured to them, had never come into operation under this act; and hence a general dissatisfaction prevailed amongst them against the existing corn-law, which they had sufficient interest in the legislature to get altered in 1791.

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* Arthur Young's 'Political Arithmetic,' 1774.

* 12 Geo. III. c. 71.

† 13 Geo. III. c. 43.

‡ Wealth of Nations, book iv. chap. 5.

At the commencement of the present period the average prices of corn were struck four times a-year, at the quarter-sessions, and they could not be altered between the interval of one quarter-session and another. In 1774, however, an act was passed,* and came into operation on the 1st of June, by which exportation was regulated by the price on the market-day preceding the shipment; thus adopting the real average price at the time, instead of acting upon the average which existed three months before.

Six years afterwards, in the session 1780-1† it was enacted that the prices of English corn for the port of London and the ports of Kent and Essex should be determined by the averages taken at the London Corn Exchange. The weekly average was to regulate the exportation; but the importation of foreign corn and grain was regulated by averages struck only once a quarter.

In the session of 1788-9 new regulations were framed,‡ applying to all parts of the kingdom, which was divided into twelve districts, and in each a number of the principal market-towns was selected, in which, and at the seaports, the price of corn was to be ascertained for each district. Weekly returns were to be made to the receiver in London, who, on the 1st of February, May, August, and November, was to compute from the returns of the six preceding weeks the average price of each description of British corn and grain (with the exception of oats, the averages of which were to be computed on the returns of the twelve preceding weeks). The aggregate average of the six weeks (and for oats of the twelve weeks) to be transmitted to the principal officer of the customs in each district, and to regulate the importation at each port of the said district. The export trade was still regulated by the weekly averages. Under this act each of the twelve maritime districts was treated as distinct in itself, and counties on one side of the kingdom might be exporting their surplus produce to a foreign market, while those on the other side were under the necessity of importing.

Fourth Period.—From 1791 *to* 1804.

The new corn-law of 1791 was founded upon stricter principles than that of 1773. It enacted that after November 15, 1791, the bounty of 5*s.* per quarter should be paid when wheat was under 44*s.*, and that when wheat was at or above 46*s.* exportation was to cease. The new scale of import duties was as follows:—For wheat under 50*s.* per quarter, the "high duty" of 24*s.* 3*d.* was payable; at 50*s.*, but under 54*s.*, the "first low duty" of 2*s.* 6*d.*; at or above 54*s.*, the "second low duty" of 6*d.* was payable. The protecting price was thus raised from 48*s.* to 54*s.* the quarter; and this main feature of the act was intended to shut out supplies from abroad, and of course to raise prices at home. The duty of 24*s.* 3*d.*, so long as the price of wheat was under 50*s.* the quarter, was equivalent to a prohibition.

The thirteen years from 1791 to 1804 form a very eventful period in the history of the Corn Laws. Under the comparatively free system established by the Corn Act of 1773, the excess of imports had been comparatively trifling; but under an act expressly constructed to prevent importation as far as possible, the excess of imports in the thirteen years from 1791 to 1803 amounted to 6,458,901 quarters of wheat and wheat-flour, and enormous sacrifices were made to obtain this quantity. The seasons in their courses fought against the enactments of the legislature; and the dependence on foreign supplies was never so complete as at the very period when hopes had been entertained that the produce of the home grower would prove sufficiently ample for the wants of the country.

The effects of the different years of scarcity just at the close of the last and the commencement of the present century cannot be passed over without a cursory notice. The harvest of 1793 had been below an average, and those of the two following years were decidedly deficient. The average price of wheat rose from 55*s.* 7*d.*, in January, 1795, to 108*s.* 4*d.* in August. Parliament met in October, when the King's speech alluded to the "very high price of grain" as a subject of "the greatest anxiety." In the following month the Chancellor of the Exchequer moved for the appointment of a select committee to inquire into the circumstances of the scarcity, and the means of removing it. Monopoly, forestalling, and regrating were alleged to be among the causes of the dearth; and Lord Kenyon, at the Salop assizes, threatened to inflict the "full vengeance of the law" upon those parties who should be found guilty of these practices. The deficiency in the crops was variously estimated at from one-fifth to one-seventh; and to provide an adequate supply, an act was passed, granting a bounty of from 16*s.* to 20*s.* the quarter, according to the quality, on wheat from the south of Europe, till the quantity should amount to 400,000 quarters; and from America till it should amount to 500,000 quarters; and 12*s.* to 15*s.* from any other part of Europe till it should amount to the same quantity; the bounty to be 8*s.* and 10*s.* after that quantity was exceeded. Neutral vessels laden with grain were forcibly seized on the high seas, and the masters compelled to sell their cargoes to the government agents. The members of both Houses of Parliament bound themselves by a written pledge to observe the utmost frugality in the use of bread in their respective households: and engaged to reduce the consumption of wheat by at least one-third of the usual quantity consumed in ordinary times, unless the average price of wheat should be reduced to 8*s.* the bushel. The hair-powder tax was imposed at this period, as a means of diminishing the consumption of wheat.

The high price of wheat produced severe distress. The agricultural districts were disturbed by riots, and that fatal measure—the allowance system—was introduced. For the next two or three years the harvests were more favourable, until the disastrous season of 1799. The average price of wheat at the commencement of that year was 49*s.* 6*d.* the quarter, but in December it had risen to 94*s.* 2*d.*; and soon after the commencement of the following year the prospects of scarcity had become so formidable that a select committee of the House of Commons was appointed to investigate the deficiency in the last crop. In pursuance of the recommendation of this committee, recourse was again had to a bounty; and an act was passed, offering to the importer the difference between the average price of English wheat in the second week after importation and 90*s.* on wheat from the south of Europe, Africa, and America; 85*s.* from the Baltic and Germany; and 90*s.* from Archangel, if imported before the 1st of October, 1800. Lord Hawkesbury also brought in a bill, which was passed through its various stages on the following day, prohibiting the sale of bread until twenty-four hours after it had been baked. Notwithstanding these prospective remedies, the average price of wheat continued to advance, and in June, 1800, was 134*s.* 5*d.* the quarter. Considerable importations brought down the price to 96*s.* 2*d.* in August; but in December it had again advanced to 133*s.*, in consequence of the deficiency of the harvest of 1800.

Parliament was assembled in November, 1800, at an earlier period than had been intended, for the purpose of devising measures to remedy the severe distress of the times, arising from the high prices of provisions. The speech from the throne alluded to the supposition of combination and fraudulent practices for the purpose of raising the price of grain, which a committee of the House of Lords denied. A select committee of the Commons was again appointed to take into consideration the existing high prices, and by the end of December this committee had presented six reports to the House, in the first of which the deficiency of the crops was stated to be one-fourth, and that the old supplies were exhausted before harvest. The committee suggested a variety of remedies to meet the emergency. Among other things they recommended the encouragement of the fisheries, the stoppage of the distilleries, a bounty on importation; also a recommendation from persons in authority, pointing out the necessity of the general practice of economy and frugality in all articles of food; and it was proposed to call upon the other House of Parliament to join in an address to the throne, requesting his Majesty to issue a proclamation in recommendation of this suggestion. A royal proclamation was issued accordingly, and was widely circulated by the clergy and magistrates throughout the kingdom. An act was also passed, guaranteeing the difference between the average price of foreign wheat in the third week after importation and 100*s.* to the importer of *all* wheat weighing 53lbs. per bushel, if imported within the time limited by the act. The advance of prices continued unchecked in spite of the various plans adopted to lower them; and in March, 1801, wheat averaged 156*s.* 2*d.* the quarter, or, taking the imperial measure now in use, 20*s.* the bushel; barley averaged 90*s.* 7*d.* the quarter, and oats 47*s.* 2*d.* The importations of the year were, wheat, 1,421,766 quarters; barley, 113,966; oats, 583,043. For four weeks the quartern loaf in London was as high as 1*s.* 10½*d.*

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* 14 Geo. III. c. 64.

† 21 Geo. III. c. 50.

‡ 29 Geo. III. c. 58.

The agricultural districts were again disturbed by riots, and the allowance system, introduced as a mode of relieving the distress of the poorest class, was becoming firmly established. They must otherwise have actually perished; and even the classes above them would have shared the same fate, but for the rise of wages and the contributions of parishes, and the aids afforded by friends and by private charity. All these artificial modes of adjustment were miserable expedients, and necessarily fell far short of placing those whom it was designed to benefit in the condition of comfort which they enjoyed when the price of food was low from the effects of abundance. The money wages of the agricultural labourer, in order to have been equal to those which he received in the reign of George II., should have risen to about 30*s.* per week. Arthur Young gives a list of articles which, when the labourer was paid 5*s.* per week, he could have purchased with that 5*s.*, namely, a bushel of malt, a bushel of wheat, a pound of butter, a pound of cheese, and a pennyworth of tobacco; and he states that in 1801 these articles would have cost him 26*s.* 5*d.*; while wages having risen only to 9*s.*, and the allowance from the parish being estimated at 6*s.*, his real wages were still 11*s.* 5*d.* less than under the former period. Thus even the parish allowance, which equalled two-thirds of his wages, left him in a state of distress. There is a table in the Appendix to one of the Parliamentary Reports on the subject of the high price of provisions, which shows that the most indispensable necessaries of life had risen 200 per cent. in 1800 as compared with 1773. Both in 1799 and 1800 Mr. Whitbread had proposed a bill for regulating the wages of labour by the price of provisions, and fixing a minimum of wages, but such an expedient was wisely rejected. The rise of wages, without which actual starvation would have ensued, inadequate as it proved, was better than such a plan. Several trades succeeded in obtaining an advance: and from the statements of the tailors and printers of London, in support of their claims, we take the following particulars:—The wages of the former class of workmen, from 1777 to 1795, had averaged 21*s.* 9*d.* per week, and the price of the quartern loaf being 7½*d.*, they could purchase thirty-six loaves with a week's wages. During the scarcity of 1795 their wages had been advanced to 25*s.*, and in 1801 to 27*s.*, in which latter year a week's wages would purchase only 18¼ quartern loaves. The wages of compositors had been advanced from 24*s.* to 27*s.* in 1795, and to 30*s.* in 1801. The advance in the wages of carpenters, bricklayers, masons, and artisans of a similar stamp was inconsiderable. The salaries of persons holding official situations under the government were also increased. The misery of the bulk of the people during the years of scarcity is shown by the diminished number of marriages, which, from 79,477 in 1798, were reduced to 67,288 in 1801.

The fallacy that wages advance with the price of food was never more glaringly displayed than at this period; and it is still a prevalent notion that there is a connexion between high prices of provisions and high wages, though, seventy years ago, Adam Smith had shown (and his doctrine on this subject has never been controverted)—1. That the real wages of labour rise in a year of plenty and diminish in a season of scarcity. In the former, the funds in the hands of the employers of industry are sufficient to maintain a greater number of industrious people, and, as masters wanting workmen bid against each other, money wages may also rise. 2. That a year of scarcity and high prices diminishes the funds for the employment of labour; persons are thrown out of employment who bid against one another in order to get it; and wages fall. 3. That in the *ordinary* variations of the price of provisions these two opposite causes are counterbalanced, which is one reason why the wages of labour are more steady and permanent than the price of provisions.* In the evidence before the Lords' Committee on the Corn Laws in 1814 there is a remarkable illustration of the effect of the scarcity of 1812 on wages. Mr. Milne, a landowner, stated that a certain description of farm-labour which twenty-five years before had cost him 3*s.*, and which a neighbour of his had paid 5*s.* for two or three years before, was executed during a period of scarcity and high prices for 2*s.* 6*d.*, the cause of this difference being, as he alleged, "that a great many labourers were idle from having little work, in consequence of those employed doing double work."

There was one class to whom the period of this memorable dearth was a season of great prosperity, that is, as Mr. Tooke states, "to the landlords, who were raising, or had the prospect of soon raising, their rents; and to the farmers, who were realizing enormous gains pending the currency of their leases." Arthur Young estimated the additional sum received by the corn-growers in 1795-6, as compared with the average of the twelve years ending 1794, at 19,553,849*l.*, allowing one-fifth for the deficiency of the wheat-crop. This large sum in the first instance found its way into the pockets of the farmers, and the landlords next advanced their claims to a portion of the advantage, and raised their rents.

A tolerably abundant harvest in 1801 happily put an end to the great dearth. In March the average price of wheat was 155*s.* the quarter; in June, with the prospect of a favourable harvest, it was 129*s.* 8*d.*, and at the end of the year the price had fallen to 75*s.* 6*d.* In the two following years the harvests, though not very abundant, were favourable, and a further depression of prices took place. At the close of 1802 the average price of wheat was 57*s.* 1*d.* the quarter: early in 1803, 52*s.* 3*d.*; and at a corresponding period in 1804 the average price was as low as 49*s.* 6*d.* Meetings were now held in the agricultural counties for the purpose of petitioning Parliament for additional protection to agriculture, the act of 1790-1, which had raised the free import price † from 48*s.* to 54*s.*, having been unsuccessful. This brings us to the termination of the fourth period.

The act of 1790-1 consolidated, amended, and repealed a number of old statutes relating to the corn-trade; amongst the latter, the 15 Charles II. c. 7, which prohibited buying corn to sell again, and laying-up corn in warehouses. It also permitted foreign corn and grain to be bonded in the King's warehouses, the duty to be payable only when taken out for home consumption. The object of this beneficial clause is stated as follows:—"To promote and extend the commerce of the merchants of this kingdom in foreign corn, and to provide stores which may always be ready for the relief of his Majesty's subjects in times of dearth."

* Wealth of Nations, book i. chap. viii.

† There was a nominal duty of 6*d.*

Many of the provisions of the act, however, interfered with trade to a vexatious and injurious extent. When foreign exportation was not allowed at any particular port, not even home produce could be carried thence coastwise, even to a port at which exportation was at the time taking place. Foreign vessels might however change their destination to any port where importation was permitted, if, on their arrival at that for which their cargo had been shipped, importation had ceased to be allowed. The country was still divided into so many independent sections, and this regulation was introduced into Scotland, which was divided into four districts. For the purposes of exportation, the weekly averages of each district were cited, and, for importation, the average of the six weeks preceding the 15th of February, May, August, and November. Thus the one varied from week to week, and the latter was only changed four times a-year.

Fifth Period.—From 1804 *to* 1815.

On the 13th of April, 1804, the Chancellor of the Exchequer moved for the appointment of a select committee to inquire into the principle and operation of the Corn Regulation Act of 1791, and to determine whether the scale which it fixed for the regulation of imports and exports was now applicable. On the 14th of the ensuing month the committee presented their report, in which they stated that the act alluded to required "very material alteration." On the 14th of June the committee presented a second report, in which their convictions as to the necessity of some new legislative measure on the trade in corn are thus stated:—"It appears to your committee that the price of corn from 1791 to the harvest of 1803 has been very irregular; but, upon an average, increased in a great degree by the years of scarcity, has in general yielded a fair profit to the grower. The casual high prices, however, have had the effect of stimulating industry, and bringing into culture large tracts of waste land, which, combined with the two last productive seasons, has occasioned such a depression in the value of grain as it is feared will greatly tend to the discouragement of agriculture, unless maintained by the support of Parliament." The committee founded their recommendations for protection on "a comparative view of the price of labour, and of the unavoidable expenses incident to the farmer in the year 1791, and to the farmer at the present time." Their views prevailed also in the legislature, where a bill to give effect to them was introduced on the 20th of June.

The scale for the admission of foreign corn established by the act of 1804 was as follows:—Wheat under 63*s.* per quarter, the "high duty" of 24*s.* 3*d.* payable; at 63*s.* and under 66*s.*, the "first low duty;" and at or above 66*s.*, the "second low duty," which amounted only to 6*d.* The free import or nominal duty price was thus raised from 54*s.*, at which it stood in the act of 1790-1, to 66*s.*—an increase of 12*s.* The bounty of 5*s.* on exportation was to be paid when the average price of wheat was at or under 48*s.*; and when the average rose to 54*s.*, exportation to be prohibited. The two latter enactments proved totally inoperative.

Immediately after the passing of this act the price of wheat and other grain rose, a circumstance which was at first attributed by many to that measure. Between March and December the average price had increased from 49*s.* 6*d.* the quarter to 86*s.* 2*d.*; and in the spring of the following year petitions were presented to Parliament expressing dissatisfaction with the new act on account of its alleged operation on prices. The crops in 1804, however, proved very deficient, and it is therefore more correct to attribute the rise to this cause. In the three following seasons the harvests were not abundant, and in the five years from 1808 to 1812 they were very deficient. In the month of August in the latter year, the average prices were—for wheat 155*s.*, barley 79*s.* 10*d.*, and oats 56*s.* 2*d*; and Mr. Tooke says* that in Mark-lane the finest Dantsic wheat fetched 180*s.*, and oats in one or two instances were sold at the enormous price of 84*s.* the quarter.

Coincident with the unfavourable seasons during this period there was the effect of the great war in which we were then engaged, which in various ways increased the cost of production, and by impeding commercial intercourse rendered it difficult and expensive to obtain supplies from abroad at a time when our own harvests were inadequate. These obstacles were at one time so serious from the effect of the Berlin and Milan Decrees and the American Non-intercourse Act as to threaten us with total exclusion from the continental ports. But, notwithstanding the anti-commercial spirit which the war had assumed, and at a period when this influence was relied upon as a most powerful means of distressing this country, licences were granted by the French government, in consequence of which about 400,000 quarters of wheat, besides other grain, were imported to supply the deficiency of the harvest of 1809 in this country. The harvest, both in France and the Netherlands, had been very abundant, and the export of a part of their surplus produce was a great relief to the corn-growers of those countries. In 1810 we imported 1,500,000 quarters of wheat and flour, and 600,000 quarters of other grain and meal. The expenses of freight, insurance, and licences amounted to from 30*s.* to 50*s.* per quarter on wheat. From 1809 to 1812 the freight and insurance on wheat from the Baltic was 50*s.* the quarter. Prices necessarily rose to a great height in the home market before the obstacles to commercial intercouse arising from the war could be overcome, and an average price of 80*s.* the quarter for wheat was at times insufficient to lead to any considerable importation. The enormous charges on importation were of course added to the natural price of British corn; and thus we have easily explained the cause of the "war prices" of this memorable period, and of the extraordinary profits of farmers and landowners.

The high prices stimulated cultivation, and from 1804 to 1814 inclusively the number of enclosure bills which received the royal assent was 1084, being considerably more than for any other corresponding period. The state of the agricultural interest at this time has been impartially described by Mr. Tooke:—A great amount of gain had been distributed among the agricultural classes; and as the range of high prices (with an interval of depression between the harvests of 1810 and 1811, so short as not to have been felt at all by the landlord, and very little by the farmer) had been of an unusually long continuance, it was concluded that the causes of that high range were permanent. From 1809 to 1813 was accordingly the period in which rents experienced their greatest rise,—that is, upon the expiration of leases, they were advanced in full proportion to the high range of the prices of produce; and in several instances they were raised threefold or upwards of what they had been in 1792.* In an ensuing period we shall see the disasters which the farmers experienced under other circumstances in consequence of the dangerous state of artificial prosperity in which they were placed during the war.

The effect of another cycle of bad seasons, to which is to be added increasing taxation, was not favourable to the interests of the working classes. In 1812 and 1813 the poor-rates amounted to about 3,300,600*l.* more than they had been in 1803, a year of low prices and agricultural distress. Still further attempts had been made to adjust wages to the high price of provisions, and the demand of men for the navy and army offered a resource which frequently rendered the strikes of workmen for advanced wages successful. The wages of artisans and labourers were nearly doubled, that is, the money value of their wages; but their real value—the command of a week's earnings over the necessaries of life—was diminished. The rise of money wages had reached its maximum in 1812. The workmen employed in manufactures experienced severe distress during this period; the advance of wages was less in their case than that of any other class; in some branches of manufacture there had been no change; in others it was accompanied by longer hours of work; and the stagnation of the export-trade occasioned nearly a total cessation of employment in several branches of manufacturing industry. Many parts of the country were disturbed by riots in consequence of the inability of the poorer classes to purchase an adequate share of food during these seasons of agricultural prosperity and high prices arising from defective harvests and the other causes to which allusion has been made.

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* Hist. of Prices, i. 323.

* Hist. of Prices, i. 323-6.

A year or two of low prices of agricultural produce again brought to a close another period in the history of the Corn Laws. Wheat, which had been sold as high as 180*s.* the quarter (for select parcels) in 1812, fell to 73*s.* 6*d.* after the abundant harvest of 1813; and after that of 1814, which was rather favourable than otherwise, the average price was reduced to 53*s.* 7*d.* the quarter. This fall in prices and the cessation of hostilities led to the reconsideration of the whole question of the Corn Law.

During the present period an important change was made in the mode of striking the average prices of corn and grain. The twelve maritime districts of England, and the four similar districts of Scotland, ceased to be regarded as sixteen separate sections, each of which was regulated by the prices prevalent within its separate limits; but for England, the averages, taken as before, were computed for the whole of the twelve districts at once, and the average price obtained from the computation regulated importation and exportation at sea-ports situate in any part of the country; and for Scotland the same plan was pursued. The six weeks' averages, struck quarterly, regulated the import-duty, and the weekly average the exports.

In 1806 was passed "An Act to permit the free Interchange of every Species of Grain between Great Britain and Ireland."* Ireland had been previously treated as a colony, but this act placed her on an equality with other parts of the kingdom, and, for oats, has rendered Ireland the granary of England. In 1838 nearly two million quarters (1,948,380) of oats and oatmeal were imported into Great Britain from Ireland, and the supply is yearly increasing: the imports of wheat from the sister kingdom have been gradually diminishing since 1832, when the quantity was 552,741 quarters.

Sixth Period.—From 1815 *to* 1822.

The corn-law of 1815 originated in the desire to preserve, during a state of peace, the high rents and prices which had existed during the war. The war had been a period of scarcity, arising from various causes, and the real effect of this measure was to perpetuate the high prices and high rents by an artificial scarcity. On the 10th of June, 1814, a Committee of the House of Lords on the corn-trade was appointed, which made a brief report on the 27th, when the Committee was instructed to examine witnesses in support of allegations contained in petitions presented to the House on the subject. The principal feature of the second report was the recommendation of the Committee that so long as the average price of wheat was under 80*s.* the ports should be completely closed against supplies from other countries. The prohibitive price suggested by the agricultural witnesses examined by the Committee varied from 72*s.* to 96*s.* Out of sixteen witnesses belonging to this class, only four were in favour of the free importation price being below 80*s.* per quarter. This second report was presented on the 25th of July; but the attempt to give so complete a monopoly as would have been established by carrying out the recommendations of the Lords' Committee was so resolutely opposed by the country that the bill which had been brought in for the purpose was abandoned. An act was however passed, repealing the bounty on exportation,† which had been allowed under various circumstances since 1688, though, from 1792, the high prices which prevailed in the home market rendered it inoperative. By the new act exportation might take place at any time without reference to prevailing prices.

The average price of wheat for the year 1814 was about 34*s.* per quarter lower than the average of the preceding year, though the harvest had not been an abundant one. In the month of Frebruary, 1815, the average price was under 60*s.*, and before harvest it might rise to 66*s.*, when the ports would be open and prices again be depressed, and it was brought to a very low point, in consequence of the obstacles to free intercourse with the Continent being removed. Early in the session of 1815, therefore, a bill was brought in, giving effect to the recommendations of the Committee of the previous year, and fixing 80*s.* as the lowest point at which importation could take place. The measure produced great excitement throughout the country, particularly in the manufacturing districts and in all the large towns. In the House of Commons, at an early period, a division took place in favour of 72*s.* being substituted for 80*s.*, with the following result:—For the motion 35; against it 154,—majority 119. On the 3rd of March an attempt was made to throw out the bill:—For the motion 56; against it 218; majority 162. On the 6th of March the vicinity of the House of Commons was thronged by an excited multitude, and several members were stopped, some of them roughly handled, and they were questioned by the mob as to the vote which they intended to give. Ultimately the military were called out, and, with the civil force, kept the streets clear. This evening the gallery of the House of Commons was closed. An attempt was made to render the bill more favourable by substituting 74*s.* instead of 80*s.* as the pivot price; and the motion was supported by 77 against 208, being a majority of 131. On the 8th of May, on bringing up the report, an amendment was moved, that the bill be read that day six months, when there voted 50 in its favour, and 168 against it; majority 118. A final attempt was made to substitute a lower rate than 80*s.*, leaving it to the House to determine the exact price at which prohibition ceased; but only 78 voted for the motion, and 184 in favour of the measure as originally proposed. On the 10th of March, on the third reading, an amendment was moved, that the bill be thrown out, but it was only supported by 77 against 245; majority 168. On the 20th of March the bill passed the Lords by a majority of 107:—128 contents, and 21 non-contents. The measure was opposed with great force and acuteness by several of the most eminent statesmen of the day; and Lord Grenville drew up a protest embodying the views of the leaders of the minority. We give a copy of this historical document:—

"PROTEST.

"1. Because we are adverse in principle to all new restraints on commerce. We think it certain that public prosperity is best promoted by leaving uncontrolled the free current of national industry; and we wish, rather, by well-considered steps, to bring back our commercial legislation to the straight and simple line of wisdom, than to increase the deviation, by subjecting additional and extensive branches of the public interest to fresh systems of artificial and injurious restriction.

"2. Because we think that the great practical rule of leaving our commerce unfettered applies more peculiarly, and on still stronger grounds of justice, as well as of policy, to the corn-trade, than to any other. Irresistible, indeed, must be the necessity which could, in our judgment, authorise the legislature to tamper with the sustenance of the people, and to impede the free purchase and sale of that article on which depends the existence of so large a portion of the community.

"3. Because we think that the expectations of ultimate benefit from this measure are founded on a delusive theory. We cannot persuade ourselves that this law will ever contribute to produce plenty, cheapness, or steadiness of price. So long as it operates at all, its effects must be the opposite of these. Monopoly is the parent of scarcity, of dearness, and of uncertainty. To cut off any of the sources of supply can only tend to lessen its abundance; to close against ourselves the cheapest market for any commodity must enhance the price at which we purchase it; and to confine the consumer of corn to the produce of his own country is to refuse to ourselves the benefit of that provision which Providence itself has made for equalising to man the variations of season and of climate.

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* 46 Geo. III. c. 97.

† 51 Geo. III. c. 69.

"4. But, whatever may be the future consequences of this law, at some distant and uncertain period, we see, with pain, that those hopes must be purchased at the expense of a great and present evil. To compel the consumer to purchase corn dearer at home than it might be imported from abroad is the immediate practical effect of this law. In this way alone can it operate. Its present protection, its promised extension of agriculture, must result (if at all) from the profits which it creates by keeping up the price of corn to an artificial level. These future benefits are the consequences expected, but, as we confidently believe, erroneously expected, from giving a bounty to the grower of corn, by a tax levied on its consumer.

"5. Because we think that the adoption of any permanent law for such a purpose required the fullest and most laborious investigation. Nor would it have been sufficient for our satisfaction could we have been convinced of the general policy of so hazardous an experiment. A still further inquiry would have been necessary to persuade us that the present moment was fit for its adoption. In such an inquiry we must have had the means of satisfying ourselves what its immediate operation will be, as connected with the various and pressing circumstances of public difficulty and distress with which the country is now surrounded; with the state of circulation and currency; of our agriculture and manufactures; of our internal and external commerce; and, above all, with the condition and reward of the industrious labouring classes of our community. On all these particulars, as they respect this question, we think that parliament is almost wholly uninformed; on all, we see reason for the utmost anxiety and alarm from the operation of this law.

"Lastly. Because, if we could approve of the principle and purpose of this law, we think that no sufficient foundation has been laid for its details. The evidence before us, unsatisfactory and imperfect as it is, seems to us rather to disprove than to support the propriety of the high price adopted as the standard of importation, and the fallacious mode by which that price is to be ascertained.

"And on all these grounds we are anxious to record our dissent from a measure so precipitate in its course, and, as we fear, so injurious in its consequences.

"AUGUSTUS FREDERICK
(Duke of Sussex),
WILLIAM FREDERICK
(Duke of Gloucester),
GRENVILLE,
WELLESLEY,
ESSEX,

"TORRINGTON,
DUTTON (Marquis of Douglas),
CHANDOS BUCKINGHAM,
MONTFORT,
KING,
CARLISLE."

On the 23rd of March the bill received the Royal assent.

Until the average price of wheat rose to 80*s.* the ports were to be effectually closed. Colonial wheat was admitted when the average prices reached 67*s.* per quarter. Such was the leading feature of the new act.[*] But the mode in which the average prices were determined greatly increased its stringency. A new average was to be struck quarterly, on the 15th of February, May, August, and November, from the aggregate prices of the six preceding weeks; but it was provided that, if during the six weeks subsequent to any of these dates the average prices, which might be at 80*s.*, fell below that price, no supplies could be admitted for home consumption from any ports between the rivers Eyder and the Bidassoa,—that is, from Denmark to Spain.

It was the general expectation of the farmers that the act of 1815 would maintain the prices of their produce at a rate somewhat under that of the scale which the legislature had adopted; and which, for wheat, was 80*s.*; barley 40*s.*; oats 27*s.*; and rye, beans, and peas, 53*s.* They entered into contracts with their landlords and others with this conviction. But, as in every measure passed since 1773 prices had risen above the scale which had been fixed as the prohibitive rate, it happened that they now sunk below it to an extent which they had not anticipated. In 1816, 1817, and 1818, three deficient harvests occurred, that of the former year being below an average crop to a greater extent than in any year since the periods of scarcity at the close of the last century. Prices rose above the rate at which foreign supplies were admitted, and in 1817 and 1818 above 2,600,000 quarters of wheat were imported. In 1821 and 1822 the agriculturists endured the severest season of distress which had been experienced by that body in modern times, and the engagements which they had been induced to make under the fallacious hopes excited by the last Corn Act and the range of high prices during the war occasioned them to be swept from the land by thousands. In the week ending December 21st, 1822, the average prices of corn and grain were as follow:—

	Wheat.		Barley.		Oats.		Rye.		Beans.		Peas.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
	38	8	29	4	18	9	23	6	28	10	29	4
Being	41	4	10	8	8	3	29	6	24	2	23	8

lower than the scale which was framed for the farmers' protection. The harvest of 1820 was estimated as one-fourth above an average crop, and by some, who included the extended breadth of wheat under cultivation in consequence of the high prices of 1816-17-18, the surplus was computed at about one-third above the average,—that is, there was a surplus of between 3 and 4 million quarters of wheat, for which there was no demand. The crop of 1821 was large, but of inferior quality; that of 1822 was above an average, and the harvest was unusually early. The cause of the great fall of prices and of its distressing effects on the farmers was sufficiently obvious. They were under leases and rents founded upon an extraordinary conjuncture of bad seasons with a state of war, and were buoyed up by an act which promised to exclude supplies of foreign grain.

The fluctuations in price under the corn-law of 1815 were as extraordinary as they were unexpected by the landed interests, and amounted to 199½ per cent.

The cry of agricultural distress was now heard from every part of the country, and never ceased to ring in the ears of the legislature during the years 1820-1-2. Committees of the House of Commons were appointed to inquire into the condition of agriculture in the two latter years, and numerous plans were conceived for the relief of the agricultural class. In Parliament Sir Thomas Lethbridge proposed a permanent duty on foreign wheat of 40*s.* per quarter, and he claimed protection for every description of produce raised from British soil. Mr. Benett's plan was a permanent duty of 24*s.* per quarter after the averages had again reached 80*s.* and a drawback of 18*s.* per quarter to be allowed on the exportation of wheat of marketable quality. Mr. Curwen suggested to the House that when the average price of wheat reached 80*s.* the ports should be opened for the admission of 400,000 quarters of foreign wheat, at a duty of 10*s.*; and if, six weeks after this quantity had been admitted, the average price should still continue above 80*s.*, then to allow of the importation of an additional 400,000 quarters, at a duty of 5*s.* The late Mr. Ricardo moved resolutions to the effect that when the averages rose to 65*s.* per quarter all the foreign wheat then in bond should be liberated at a duty of 15*s.*; and that afterwards, whenever the averages exceeded 70*s.*, the trade in wheat should be free, at a permanent duty of 20*s.*: one year from that time the duty to be reduced to 19*s.*, and a similar reduction to be made each year until the duty was 10*s.*, at which it should be permanently fixed; at the same time allowing a drawback or bounty on exportation of 7*s.* per quarter.

The resolutions moved by Mr. Huskisson, on the 29th of April, during the agricultural panic of 1822, show that he took a calm and rational view of the subject. They were to the following effect:—That in February, 1819, the average price of wheat was 78*s.* 7*d.* per quarter, and the total quantity of wheat imported during the year was only 300,416 quarters. In 1820 the average price of wheat was 65*s.* 10*d.*, and the foreign supplies of wheat arriving in the port of London were under 400,000 quarters; and in 1821 the average price was still lower, being 54*s.* 5*d.*, and the foreign supplies in the same port were under 500,000 quarters for the year. In January, February, and March, 1822, the average price was lower still, being 47*s.* 9*d.*, and the ports were closed. Mr. Huskisson's second resolution was to the effect that, "during the whole of this period of three years, the supply in all the principal markets of the United Kingdom appears uniformly to have exceeded the demand, notwithstanding the wants of an increasing population, and other circumstances which have probably produced an increased consumption." The third resolution showed—"That the excess of the supply above the demand must have arisen either from an extent of corn-tillage more than commensurate to the average consumption of the country, or from a succession of abundant harvests upon the same extent of tillage, or from the coincident effect of both these causes." To prevent the alternate evils of scarcity and redundance, Mr. Huskisson proposed that the trade should be permanently free at a duty of 15*s.* per quarter, when the averages were under 80*s.*; and when above 80*s.* the duty to be 5*s.*; and above 85*s.* a nominal duty of 1*s.* only to be imposed.

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[*] 55 Geo. III. c. 26.

The Select Committee of the House of Commons had a still greater variety of projects offered for its consideration. One plan proposed to the Committee of 1821 was to withdraw the permission to warehouse foreign wheat or any other foreign grain in England; and the Committee felt itself under the necessity of arguing this point in their report, by showing the pernicious effect of such a regulation on the shipping interest, and on the country generally. The Committee of 1822 had under its serious consideration two plans for the alleviation of agricultural distress:—1. The application of 1,000,000*l.* in Exchequer bills, to be employed through the agency of Government in buying up a certain quantity of British wheat to be placed in store. 2. Advances to be made to individuals on produce deposited in warehouses, to prevent them coming into the market simultaneously. The first plan was rejected by the Committee, but they considered the second was feasible, and were of opinion that "The sum of 1,000,000*l.* so employed (in loans on stock) would probably be fully adequate to give a temporary check to the excess which is continually poured into the overstocked market." Having reaped the full advantage of high prices, it could only be as a matter of expedience rather than of equity that the agriculturists should be exempt from the effects of a return of peace and plenty. In the House of Lords, the Marquis of Londonderry, on the 29th of April, moved that 1,000,000*l.* be advanced in Exchequer bills, when the average price of wheat was under 60*s.*

There was one class to whom the low prices of 1820-1-2 were advantageous. It is admitted beyond a doubt that the labourer and artisan were in a much more contented and prosperous state in these years than they had probably been for thirty years before. Wages had risen, and they did not fall in the same proportion (if in some cases they fell at all) with the low prices of agricultural produce. In the dear years of 1812-17-19, the country was in a disturbed state; but in 1820-1-2 the labouring classes were peaceful and contented. After the peace, the Continent being opened to our manufacturers, the population engaged in this branch of national industry, which had experienced the severest distress during the war, was now placed in a position of greater comfort from the stimulus given to the pursuits in which they were engaged.

The fall of prices in 1820-1-2 had fully demonstrated the futility of the corn-law of 1815, and it was therefore proposed to modify it.

Seventh Period.—From 1822 *to* 1828.

The framers of the corn-law of 1815 did not take into account the effect of the years of scarcity which occurred so frequently after 1804, nor the obstruction of foreign supplies caused by the war. It was founded on the supposition that, high as were the average prices of those years, they were only such as resulted from the cost of production, with the addition of the farmer's profits and the landlord's rent (both calculated on too high a scale). In the interval between 1804 and 1815, whenever a foreign supply of corn was required, the home market rose to an elevation sufficient to command a supply subject to enormous charges, amounting to from 30*s.* to 50*s.* the quarter. Freight, insurance, and other charges, which had amounted to 50*s.* the quarter from the Baltic, have been as low as 4*s.* 6*d.* within the last few years; but the difference between a free and obstructed intercourse was taken as little into account as the influence of a series of defective crops. Prices having sunk so much below the amount which had been assumed to be necessary to remunerate the British corn-growers, the law of 1815 was suspended by a new act passed in July 1822. It enacted that, "as soon as foreign wheat shall have been admitted for home consumption under the provisions of the Act of 55 Geo. III. c. 26 [the corn-law of 1815], the scale of prices at which the home consumption of foreign corn, meal, or flour is permitted by the said Act shall cease and determine." The new scale was as follows:—Wheat at or above 70*s.*, duty 12*s.*; and for the first three months of the ports being open an additional duty of 5*s.* per quarter, being a duty of 17*s.* Above 70*s.* and under 80*s.*, the "first low duty" of 5*s.* with the addition of 5*s.* for the first three months; above 80*s.* and under 85*s.*, the "second low duty" of 1*s.* was alone to be charged.

This act did not come into operation at all, as prices never reached 80*s.* It is justly described as being merely a pretended relaxation of the former act; for, though the limit of total prohibition was lowered from 80*s.* to 70*s.*, yet, if the act had come into operation, the duty would have rendered it more severe than the measure for which it was substituted as an improvement. With the exception of some barley, no corn was ever brought from abroad under the provisions of this act. But in 1826, in consequence of the unfavourable harvest, a temporary act was passed, admitting a quantity of foreign grain for home consumption. Next year the Government was driven to a still more decisive step. In the spring of the year ministers had stated that it was not their intention to liberate the corn then in bond, upon which prices immediately rose. This was followed by some disturbances in the manufacturing districts, to allay which the Government, on the 1st of May, proposed to Parliament to release the bonded corn; and, as a measure of precaution, required to be invested with powers to admit during the recess of Parliament an additional quantity, not exceeding 500,000 quarters, in case the harvest proved deficient. These powers were acted upon, and on September 1 an Order in Council was issued, admitting certain descriptions of grain for home consumption, until forty days after the next meeting of Parliament, at an almost nominal rate of duty, on the ground that, "if the importation for home consumption of oats and oatmeal, and of rye, peas, and beans, be not immediately permitted, there is great cause to fear that much distress may ensue to all classes of his Majesty's subjects." In the ensuing session of Parliament ministers obtained an act of indemnity for this order.

In 1827, after these indications of imperfection had given strength to the opinion that some other system must be devised, Mr. Canning introduced certain resolutions in the House of Commons, the leading principle of which was to permit importation at all times by substituting a graduated scale of duties in place of absolute prohibition under 80*s.* A bill was brought in, founded on these resolutions, fixing a duty of 1*s.* on foreign wheat when the average price was 70*s.* per quarter; a duty of 2*s.* being imposed for the reduction of each shilling in the averages. In respect to colonial wheat, the duty was fixed at 6*d.* when the averages were 65*s.* per quarter, and when under that sum at 5*s.* per quarter. The bill was not carried through the House of Lords, the Duke of Wellington having moved and carried a clause the effect of which was to destroy the principal feature of the measure, by keeping the ports entirely shut so long as the price of wheat was under 66*s.* the quarter. An act was, however, passed during this session to permit corn, meal, &c., warehoused on the 1st of July, 1827, to be entered for home consumption upon payment of duties according to a fluctuating scale. About 572,000 quarters of wheat and flour were entered for consumption under this act, at a duty averaging about 20*s.* per quarter. The harvest had not been defective, and this was the very reason why the corn in bond was released notwithstanding the high duty, as there was no prospect of prices advancing. The additional supply under such circumstances caused a considerable depression in the home market.

In 1821 a new act was passed relative to the averages. Instead of "the maritime districts," 148 towns were named, for which the magistrates were to appoint inspectors to make a return of the weekly purchases.

In 1825 the trade in corn and grain to the British colonies in North America was placed on a more favourable footing. The regulations under which the timber-trade is carried on, and which favour these colonies, have to a considerable extent directed their industry into other channels than those of agriculture. During one or two seasons, recently, the United States, also, instead of having a surplus supply of wheat, have been under the necessity of importing that grain, the industry of the country having been diverted from agriculture to manufactures.

The six weeks' averages still regulated the amount of duty on importation, but they were greatly improved by being every week subject to an alteration. Each week the receiver of corn returns struck out one week's averages, admitting those last received, and thereby affecting the aggregate average, as prices rose or fell from week to week. The introduction of a fluctuating scale of duty was an important step, and its effect will be considered in the next period.

It was impossible to continue any longer a system which, for three successive years, 1825-6-7, had been compelled to bend to the force of temporary circumstances; and, like previous measures, it was abandoned by its supporters, either as inefficient or injurious. Such a state of things brings us to another period in the history of the corn-law legislation.

Eighth Period.—From 1828 *to the present time.*

In 1828 Mr. Charles Grant (now Lord Glenelg) introduced a series of resolutions slightly differing from those which had been moved by Mr. Canning, and they were eventually embodied in a bill which was carried through both Houses, and received the Royal assent on the 15th of July. This measure, by which the corn-trade is at present regulated, is entitled "An Act to amend the Laws relating to the importation of Corn," and repeals 55 Geo. III. c. 26 (1815); 3 Geo. IV. c. 60 (1822); and 7 and 8 Geo. IV. c. 58 (1827). The provisions for settling the averages under this act are as follows:—In one hundred and fifty towns in England and Wales, mentioned in the act, corn-dealers are required to make a declaration that they will return an accurate account of their purchases. [In London the sellers make the return.] Inspectors are appointed in each of these one hundred and fifty towns, who transmit returns to the Receiver in the Corn Department of the Board of Trade, whose duty it is to compute the average weekly price of each description of grain, and the aggregate average price for the previous six weeks, and to transmit a certified copy to the collectors of customs at the different outports. The return on which the average prices are based is published every Friday in 'The London Gazette.' The aggregate average for six weeks regulates the duty on importation. In 1837 the quantity of British wheat sold in these towns was 3,888,957 quarters; in 1838 there were 4,064,305 quarters returned as sold; and 3,174,680 quarters in 1839.

Wheat at 50*s.* pays a duty of 36*s.* 8*d.*: barley at 32*s.* a duty of 13*s.* 10*d.*; oats at 24*s.* a duty of 10*s.* 9*d.*; rye, peas, and beans at 35*s.* a duty of 16*s.* 9*d.* In the case of wheat, when the price is 66*s.*, for every shilling that the price falls the duty increases by 1*s.*, and decreases by the same sum for every shilling that the price rises (see the third column of the following scale); for all other grain the duty increases by 1*s.* 6*d.* for every shilling that the price rises. Colonial wheat is admitted at a duty of 6*d.* when the average of the six weeks is at or above 67*s.*; and when below 67*s.* the duty is 5*s.* the quarter, and for other grain in proportion. Importation is free on payment of 1*s.* on the quarter when wheat in the home market is 73*s.*; barley 41*s.*; oats 31*s.*; and rye, peas, and beans 46*s.* the quarter.

In the following Table the scale of duties proposed by Mr. Canning, and that adopted by the legislature in 1828, and acted upon up to the present time, are placed in juxtaposition:—

Average Prices of Wheat.	Duty according to Mr. Canning's Bill.	Duty according to the present Scale.	
s.	*s.*	*s.*	*d.*
73	1	1	0
72	1	2	8
71	1	6	8
70	1	10	8
69	2	13	8
68	4	16	8
67	6	18	8
66	8	20	8
65	10	21	8
64	12	22	8
63	14	23	8
62	16	24	8
61	18	25	8
60	20	26	8
59	22	27	8
58	24	28	8
57	26	29	8
56	28	30	8
55	30	31	8
54	32	32	8
53	34	33	8

The present law has not succeeded in maintaining steadiness of price, the extremes of fluctuation being 35*s.* 4*d.* in December, 1835, and 81*s.* in January, 1839, or a difference of 129 per cent. To this derangement of prices is to be attributed much of the depression which the agriculturists experienced in 1833 and 1836. In each of these years their distressed condition was noticed in the speech from the throne on the opening of Parliament, and select committees were appointed in both years to inquire into their state. Since the commencement of 1836 nothing has been heard of agricultural distress, prices having risen from 39*s.* 4*d.* per quarter for wheat in 1835 to 70*s.* 8*d.* in 1839; but the commercial and manufacturing interests have been visited with a season of adversity.

When the harvests have been abundant, the labourer and artisan contented, and trade and manufactures flourishing, the agriculturist has suffered from the depreciation of prices. If abundant crops thus plunge him into distress, there can be no other reason for it than the engagements which he has contracted with his landlord being adapted only for years of scarcity and high prices, such as occurred during the war, when the effect of unfavourable seasons was aggravated by the obstructions to commercial intercourse. The tenant now seems to be dependent upon years of deficiency in order to realise the average rate of profit on his capital; and so long as the price of grain is subject to such great fluctuations as have been already stated, there is no permanent basis on which he can contract with his landlord. His rent must be determined by the rate of prices when he takes his lease, which may turn out in the long run to be favourable either to himself or his landlord.

Gregory King, an economist of the seventeenth century, endeavoured to prove that a strict rule of proportion existed between a given defect of the harvest and the corresponding rise of prices. The *principle* of his theory is undoubtedly true. The average price of wheat for 1835 was under 40*s.* the quarter, and for 1839 it was 80 per cent. higher, or 70*s.* 8*d.*; yet no one will assert that the crops were nearly one-half below an average, or even one-fourth, as in the great scarcity of 1816. The deficiency of 1839 is not estimated as more than one-seventh, or at the utmost one-fifth; yet prices rose to nearly double their amount in 1835. Assuming the consumption of Great Britain to be 16,000,000 quarters of wheat, the sum paid for a year's consumption would be about 31,000,000*l.* in 1835, while the same quantity would cost 56,000,000*l.* in 1839. The difference, amounting to 25,000,000*l.*, does not go into the pockets of the farmer, otherwise two or three abundant years and low prices would not occasion him embarrassment, but it is abstracted in the shape of rent, and neither the farmer nor the labourer has any advantage from it. So large a sum withdrawn from the usual channels of circulation creates stagnation in the different branches of non-agricultural industry; and thus in dear years those interests are always in a languishing and embarrassed state; though if high prices were good, they would be beneficial to both interests. In years of low prices the scale is turned; the manufacturers become prosperous, and the agriculturist is distressed. Steadiness in the price of so important an article as bread-corn is essential to the welfare of every class.

Although, after a deficient harvest, prices rise beyond the ratio of the deficiency, yet in abundant seasons they do not fall in the same ratio as produce is superabundant, as the wealthier corn-growers are enabled to keep back their supplies. What is wanted is, at least, such an importation of foreign supplies as would check the excess of prices, and render them no more than equivalent to the proportion in which the crops are deficient. This is not effected under the present scale of duties, which, in a very able pamphlet, is shown to operate as a bounty to withhold sales until prices reach their maximum. "The gain of speculators is calculated not only on the *advance* in the price of corn, but also in the *fall* in the scale of duty; and as the duty falls in a greater ratio than the price of the corn rises, the duty operates as a bounty to withhold sales."* When, for example, the average price in the home market is 66*s.*, the duty is 20*s.* 8*d.*, and on the prices reaching 73*s.* the duty is only 1*s.*; and the difference of profit to the importer is thus 7*s.* by the advance of prices, and 19*s.* 8*d.* by the fall of duty, making a total of 26*s.* 8*d.* The average duty paid on the 11,318,549 quarters of foreign wheat entered for home consumption since the present corn-law came into operation, to the 5th of January, 1841, was 5*s.* 8*d.* per quarter; but of the above quantity, 4,532,651 quarters were admitted in the fifteen months ending September, 1839, at a duty of 3*s.* 7*d.* only.

Ninth Period.—May 1841.

On the 7th of May Lord John Russell, as the organ of the Government, announced his intention of moving, in a Committee of the whole House, the following fixed duties on the importation of foreign corn:—

Wheat	8*s.*	0*d.* per quarter.
Rye, peas, and beans .	5*s.*	0*d.*
Barley	4*s.*	6*d.*
Oats	3*s.*	4*d.*

A fixed permanent duty has not hitherto been adopted under any of the numerous acts for regulating the importation of foreign corn. Prior to 1436 there do not appear to have been any restrictions of a fiscal nature on the import trade in corn. The prosperity of the country at that period depended chiefly on its agriculture, and the object of the legislature was to promote the exportation of agricultural produce. The act of 1773 admitted wheat at a duty of 6*d.* the quarter when the average price in the home market was something above the cost of production. This is the most reasonable corn-law which the country has yet had; and prices in England and the opposite parts of the continent were about the same level. In the act of 1815 little regard was paid to the average cost of production; supplies were excluded until the average price of wheat reached 80*s.* the quarter; and an artificial stimulus was given to agriculture, which, in the end, proved highly injurious to those whose interests it was designed to favour, and who abandoned the act with as much good will as they had called for its enactment. Since the act of 1773 great changes have taken place in the occupations of the people of this country. England is no longer dependent on agriculture and the home trade alone. The home market is not sufficiently extensive to give full activity to the productive powers and industry of the country, and the markets of the world are necessary to insure our prosperity. Even if a portion of the population engaged in manufactures could, by any possibility, be annihilated and cut down to a proportion which would be fully employed in satisfying the domestic demand, the energies of that diminished portion would soon need a wider field for their unfettered exercise, and would require the removal of the artificial barriers which limited their powers and diminished their prosperity. But it is of course foolish to entertain the idea of cramping the industry of the country with the view of rendering it more prosperous. There the non-agricultural population is; and to its skill, aided by the wondrous power of machinery, are we indebted for the luxuries which nature has bestowed upon other countries but denied to this, giving it instead unlimited mineral wealth, a fortunate geographical position, and a population whose admirable qualities have never been surpassed.

The proposed alteration in the import duties on corn and grain has been brought forward in connexion with plans of fiscal reform, which, if carried, will lead to a complete revision of our commercial policy, with a view of placing our relations with other countries on a more satisfactory foundation, and of enabling our manufacturers to preserve their footing in some of the principal markets of the world. The effect of the present competition is to reduce profits and wages to the same level, whether on the continent or in England, with this disadvantage to ourselves,—that the cost of food is artificially raised in this country. Had our commercial policy been placed on a proper basis at the peace, we should still have had customers where we have now rivals. But duties have been placed on British manufactures in retaliation of our attempt to exclude raw produce sent in payment for them. This is the argument with which our diplomatists are met at every foreign court, from Berlin to Cairo. Mr. M'Gregor, Secretary of the Board of Trade, related to the Committee on the Import Duties the appeals which were made to him as the commercial representative of this country at Berlin, and at the two congresses held at Munich and Dresden:—"You compelled us" (they said) "to become manufacturers; we have not mines of gold and silver, and you will not take what we have to give you; but if you had taken what we have to give, we should have continued to produce it; but as you would not take it, our people were intelligent enough to turn their attention extensively to manufactures." Dr. Bowring's 'Report to Lord Palmerston on the Prussian Commercial Union' is to the same effect. "We have rejected" (says he) "the payments they have offered,—we have forced them to manufacture what they were unable to buy." "We should not have complained," says a distinguished German writer, "that all our markets were overflowing with English manufactures,—that Germany received, in British cotton goods alone, more than the hundred millions of British subjects in the East Indies,—had not England, while she was inundating us with *her* productions, insisted on closing her markets to *ours*. The English Corn Law of 1815 had, in fact, excluded our corn from the ports of Great Britain: she told us we were to buy, but not to sell. We were not willing to adopt reprisals; we vainly hoped that a sense of her own interest would lead to reciprocity. But we were disappointed, and we were compelled to take care of ourselves." With reference to the United States of America, Mr. Addington, the British Minister at Washington, in a despatch to Mr. Canning, said:—"I have only to add, that had no restrictions on the importation of foreign corn existed in Great Britain, the tariff would never have passed through either House of Congress, since the agricultural states, and especially Pennsylvania, would have been opposed to its enactment."

The reconsideration of our commercial system (in which the corn trade forms so important a part) would, sooner or later, have been forced upon us by the change which has the fact that the exports of our manufactured goods, in which "much labour" is employed, have been replaced by those of raw and partially-manufactured materials, in which "little labour" is required. To Northern Europe we exported cotton manufactured goods to the value of 4,651,299*l.* in 1820, and, in 1838 our exports of the same goods only amounted to 1,607,990*l.*; but while the value of cotton twist (a half-manufactured article) exported to the same quarter, in 1820, was 1,961,554*l.*, it amounted to 5,378,455*l.* in 1838. The same kind of change has taken place in the other great branches of manufacture. It is stated that "The quantity of cotton twist exported, if made into goods in this country, would give employment to nearly double the number of hand-loom and double the number of power-loom weavers at present engaged in making cotton goods for exportation."* But the necessity of the proposed revision was unequivocally demonstrated by the unsuccessful attempt in 1840 to increase the revenue by additional taxes. On the assessed taxes, which cannot be evaded, the increase was realised; but on articles of daily consumption scarcely any additional revenue was obtained. The energies of the country were already too much depressed, and they had lost that elasticity which had carried it through so many difficulties. To restore its resources to their former vigour is the object of the proposed change in the corn-laws.

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* Mr. Salomons 'On the Operation of the Present Scale of Duty on

The duty proposed to be laid on wheat exceeds by 2*s.* 4*d.* the duty (5*s.* 8*d.*) actually paid under the existing law, and by 4*s.* 5*d.* the duty per quarter paid on the importation of 4½ million quarters in 1838-9. At the first glance it would appear that the proposed plan was therefore less favourable to the consumer than the sliding scale under which wheat may be admitted at a duty of 1*s.* only. But it is the operation of the two modes of charging the duty on *price* which is the real object for consideration. Under a fluctuating duty which has in one year (1838) changed thirty times from January to the end of November, and in other years since it was adopted has undergone alterations calculated to baffle the most clear-seeing speculator, there can be no steadiness of foreign imports. For example, in 1838 the duty in the second week of January was 34*s.* 8*d.*, and it declined gradually until September the 13th, when it reached the lowest point. Of course, during this period, prices were rising in the home market; but instead of the foreign corn in bond being gradually admitted for consumption, there were only about 33,000 quarters entered from the beginning of the year up to the end of August, though the average price for that *month* was 74*s.* 8*d.* The speculators *waited* until the second week of September, when, by having withheld the supply, the duty became nominal, and in a single week 1,514,047 quarters of foreign wheat were thrown upon the markets. This *sudden* addition to the supply occasioned a decline of prices, and the duty again rose. The progress of the duty in the short space of six weeks was as follows:—

	s.	*d.*
Week ending Sept. 13th . . .	1	0
" " 20th . . .	2	8
" " 27th . . .	10	8
" Oct. 4th . . .	16	8
" " 11th . . .	20	8
" " 18th . . .	21	8
" " 25th . . .	22	8

With what confidence could the merchant purchase supplies in the foreign markets under such a system? A cargo arriving at the end of September, instead of the middle of the month, would have been subject to a duty of 10*s.* 8*d.* instead of 1*s.* per quarter, and prices would have fallen lower than might have been calculated upon when the purchase was effected. It would then be bonded, and might remain in the warehouses until actually unfit for use. In a parliamentary paper (46, Session 1839) it is stated that 899 quarters of foreign wheat were abandoned and destroyed that year in the port of London. The circumstances under which this took place are explained in the following memorandum from the landing and warehousing department in the Customs:—"This wheat had been in the custody of the Crown in the bonded warehouses of the port of London since its importation from Petersburg in 1831, and had become infested with weevil to such a degree as to be unfit for human food, and quite unsaleable. Under these circumstances, the owners, desirous of being relieved from further expense for granary rent, &c., upon an article which had become almost worthless, applied to the Board of Customs for permission to destroy it; and the Board, on the report of their officers confirming the representations of the owners as to its damaged condition, granted their permission accordingly, which was carried into effect on 25th November, 1837, by the grain being thrown into the River Thames.

Another defect of the fluctuating scale is to limit the radius of supply, which, instead of comprising the north and south-east of Europe, the Black Sea, Egypt, the United States, and other distant corn-growing countries, is confined chiefly to the markets of Hamburg, Dantzic, and the Baltic ports, to which buyers rush, and, by their competition within a narrow circle, raise the prices to an unnecessary height, relying upon the profits to be obtained under the fluctuating scale amply indemnifying them for the extra charges which the necessity of despatch and expedition occasions. Purchases are made with bills drawn on England; as the unsteadiness of the trade does not encourage that demand for our manufactures which would spring up to the advantage of both parties if it were less subject to impulsive starts. The derangement of monetary affairs is a necessary consequence of a trade conducted under these circumstances; and the value of merchandise of all kinds declines from sales being forced in order to meet engagements at a time when money has been rendered scarce by the drain of remittances for corn. Neither does the present sliding scale work beneficially for the farmer, since it renders prices unsteady. The farmer with large capital may derive advantage from it, as he can select his own time for the sale of his produce; he can act in tacit cooperation with the importer of foreign corn, and, taking advantage of the highest rise of prices, get it off his hands before the markets have been temporarily glutted with a foreign supply. In 1838 this influx of foreign grain took place just before the harvest, and the great majority of farmers had to dispose of their produce when the markets had been lowered from the large foreign supply admitted just when the produce of our own harvest was coming to market. Another disadvantage of the sliding scale is experienced in those years when the crops are of inferior quality. There is an excessive scarcity of good wheat, but the quantity sold of an inferior quality depresses the average prices, and raises the duty so as to exclude a supply of sound wheat from abroad. In this case the holders of English wheat which happens to have been favourably harvested enjoy an exclusive monopoly of the market; or, if it be disturbed, it is not until the price of the best wheat has risen so high as to enable the importer to pay a duty, probably exceeding 20*s.* per quarter, in addition to all other charges.

A very exaggerated notion prevails in this country respecting the prices of foreign corn in the principal markets from which we obtain a supply when our own crops are deficient. The average price of wheat in Dantzic during the ten years ending 1831 was 33*s.* 5*d.* per quarter, and during the twenty-two years ending with 1838 it was 34*s.* 4*d.* the quarter. It is to no purpose to refer to the prices in Volhynia or in Podolia, which are of course very low compared with prices in this country; but the competition is not between the *growers* of England and those of Poland. The question is at what price wheat from these districts can be introduced into the English market, for the competition of the English grower is with the foreigner after *his* produce has been charged with all the costs of conveyance dealers both foreign and English. Mr. Porter, of the Board of Trade, says:—"The charges, in ordinary times, of merely transporting a quarter of wheat from the north of Germany and the lower ports of the Baltic to England, are stated, on good authority, to be 10s. 6d. in addition to all the charges of shipping; and I am assured that in order to get back in London the cost of a quarter of wheat bought in the Dantzic market with the lowest rate of mercantile profit, it must be sold at an advance of 18s. upon the original cost."* Another eminent authority estimates the cost of importing wheat from Dantzic, warehousing it here, and keeping it six months till sold, including insurance, but without profit, at 18s. 3d. per quarter.† Mr. M'Culloch, in the appendix to a pamphlet published by him in May, 1841, gives an account of the charges on 100 quarters of wheat imported from Dantzic for sale on consignment in London, in May, 1841. This includes the expenses of its importation, its landing, its retention for three weeks, and its delivery to the buyer, which amount in the aggregate to 45*l.* 13*s.* 8*d.*, and, with an allowance for waste, the cost would be raised to 50*l.* One hundred quarters of fine high mixed wheat, weighing about 61 lbs. per bushel, "would cost, by the latest advices, 40*s.* per quarter," so that this parcel of wheat could not be sold at less than 50*s.* per quarter, and to this has to be added the profit of the importer, which at 10 per cent. would raise the price to 54*s.* the quarter; and a fixed duty of 8*s.* would further increase it to 62*s.* Wheat is always cheaper in Dantzic, quality considered, than in any of the continental ports nearer London; and Mr. M'Culloch states that, whenever there is a demand from this country for 150,000 or 200,000 quarters, the price uniformly rises to 40*s.* the quarter; and in 1839, when 384,369 quarters of wheat were shipped at Dantzic for England, it cost the shippers 45*s.* to 55*s.* per quarter. If the ports of this country were always open, it may be concluded that the price of good wheat in Dantzic, in ordinary years, would not be under 45*s.* the quarter. "But taking it at the lowest limit, or 35*s.*, and adding to it 10*s.* or 12*s.* for the freight and other charges attending its conveyance to England, and its sale to the consumer, it is obvious it could not be sold here, even if there were no duty, for less than from 45*s.* to 47*s.* a quarter;" and if it were charged with a fixed duty of 8*s.* its price would be raised to 53*s.* to 55*s.* a quarter. Now, during the ten years ending with 1840, the average price of wheat in England and Wales was 56*s.* 11½*d.* a quarter. In five of these years the price was above this average, and in the other five years the average price was 48*s.* 6¼*d.* per quarter. Thus, since the law of 1815, which assumed the average remunerating price of wheat at something under 80*s.* per quarter, the question of "protection" has been considerably narrowed, and in abundant years in this country the importation of wheat could scarcely be profitable, while in years of scarcity the demand would raise prices abroad and check them here, only in the degree in which they had risen beyond the ratio of the deficiency.‡ In the ten years ending 1820 the average price of wheat in England was 86*s.* 3*d.* the quarter, and in the ten years following the average was 56*s.* 11½*d.*, and yet the improvement in agriculture has been so great as to provide food for one-third more population. Mr. Tooke says,§ that during the three years (1834-5-6) when the price of wheat in this country was on an average under 45*s.*, there was no apparent tendency to diminished or deteriorated cultivation.

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* Report of the Manchester Cham

The following table, showing the average prices of wheat in Prussia and in England, as stated in the Prussian Official Gazette and in the London Gazette, from 1828 to 1837, is a proof how fallacious are the fears of the corn-growers here as to the probability of their being "inundated" with Prussian wheat:

	Average Prices in Prussia Proper, including Dantzic and Königsberg.	Average Prices per London Gazette.	Difference between English Prices and mean of Prussian Prices.	Foreign Wheat and Flour consumed in Great Britain.
	s. *d.*	*s.* *d.*	*s.* *d.*	Quarters.
1828	27 2	60 5	32 5	842,050
1829	32 8	66 3	33 7	1,364,220
1830	29 6	64 3	32 6	1,701,885
1831	39 6	66 4	27 1	1,491,631
1832	34 0	58 8	24 11	325,435
1833	25 0	52 11	28 8	82,346
1834	23 9	46 2	21 10	64,653
1835	23 0	39 4	15 10	28,483
1836	21 0	48 6	26 6	30,046
1837	22 6	56 10	32 7	244,085

With a difference between Prussian and English prices in 1829-30-31 varying from 27*s.* 1*d.* to 32*s.* 7*d.* the quantities of wheat brought from all the ports of Prussia were only 353,906 quarters in 1829; 517,844 quarters in 1830; and 298,605 quarters in 1831. Prices were higher in England in 1839 than in 1838, and yet the imports from Prussia were above an eighth less than in the previous year.

When the corn-growers of England are told of wheat selling in Poland at 14*s.* or 15*s.* the quarter, they would do well to consider the cost of bringing it to the English market. The quantity which arrives at Dantzic to supply any urgent demand is brought from provinces at a distance of from 500 to 700 miles inland; and Mr. M'Culloch states that in November, 1838, when wheat sold in Dantzic for 41*s.* 6*d.* a quarter, it was selling in Lemberg, the principal corn-market of Gallicia, for 15*s.*—the difference, amounting to 26*s.* 6*d.*, being the measure of the cost and risk of conveyance from Lemberg to Dantzic.

The following account, taken from Mr. Jacob's First Report on the Corn Trade, succinctly describes the operations attending the transport of wheat from the interior to Dantzic.

"There are," says Mr. Jacob, "two modes of conveying wheat to Dantzic by the Vistula. That which grows near the lower parts of the river, comprehending Polish Russia, and part of the province of Plock, and of Masovia, in the kingdom of Poland, which is generally of an inferior quality, is conveyed in covered boats, with shifting boards that protect the cargo from the rain, but not from pilfering. These vessels are long, and draw about fifteen inches water, and bring about 150 quarters of wheat. They are not, however, so well calculated for the upper parts of the river. From Cracow, where the Vistula first becomes navigable, to below the junction of the Bug with that stream, the wheat is mostly conveyed to Dantzic in open flats. These are constructed on the banks, in seasons of leisure, on spots far from the ordinary reach of the water, but which, when the rains of autumn, or the melted snow of the Carpathian mountains in the spring, fill and overflow the river, are easily floated. Barges of this description are about 75 feet long and 20 broad, with a depth of 2½ feet. They are made of fir, rudely put together, fastened with wooden tree-nails, the corners dovetailed and secured with slight iron clamps—the only iron employed in their construction. A large tree, the length of the vessel, runs along the bottom, to which the timbers are secured. This roughly-cut keelson rides nine or ten inches from the floor, and hurdles are laid on it which extend to the sides. They are covered with mats made of rye-straw, and serve the purpose of drainage, leaving below a space in which the water that leaks through the sides and bottom is received. The bulk is kept from the sides and ends of the barge by a similar plan. The water which these ill-constructed and imperfectly-caulked vessels receive is dipped out at the end and sides of the bulk of wheat. Vessels of this description draw from ten to twelve inches water, and yet they frequently get aground in descending the river. The cargoes usually consist of from 180 to 200 quarters of wheat. The wheat is thrown on the mats, piled as high as the gunwale, and left uncovered, exposed to all the inclemencies of the weather and to the pilfering of the crew. During the passage the barge is carried along by the force of the stream, oars being merely used at the head and stern to steer clear of the sand-banks, which are numerous and shifting, and to direct the vessel in passing under the several bridges. These vessels are conducted by six or seven men. A small boat precedes, with a man in it, who is employed sounding, in order to avoid the shifting shoals. This mode of navigation is necessarily very slow; and during the progress of it, which lasts several weeks, and even months, the rain, if any fall, soon causes the wheat to grow, and the vessel assumes the appearance of a floating meadow. The shooting of the fibres soon forms a thick mat, and prevents the rain from penetrating more than an inch or two. The bulk is protected by this kind of covering, and when that is thrown aside is found in tolerable condition. The vessels are broken up at Dantzic, and usually sell for about two-thirds of their original cost. The men who conduct them return on foot.

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* "Effect of Restrictions on the Importation of Corn." By G. R. Porter.

† Mr. James Wilson.—Tract on Corn Laws.

‡ From 1832 to 1835 the average yearly import of wheat was 125,200 quarters, the average price in the home market being 49*s.* 4*d.* In 1839 the crop was deficient to the extent of probably one-fifth or one-seventh; the importations of wheat amounted to 2,681,300 quarters; and the average price of the period was 70*s.* 8*d.*, or nearly double the price of the four years ending 1835.

§ Hist. of Prices; iii. p. 50.

"When the cargo arrives at Dantzic or Elbing, all but the grown surface is thrown on the land, exposed to the sun, and frequently turned over, till any slight moisture it may have imbibed is dried. If a shower of rain falls, as well as during the night, the heaps of wheat on shore are thrown together in the form of a steep roof of a house that the rain may run off, and are covered with a linen cloth. It is thus frequently a long time after the wheat has reached Dantzic before it is fit to be placed in the warehouses."

The corn-growing districts in the south-east of Europe, and in the countries bordering the Black Sea, export their produce by the Don, the Dniepr, the Dniestr, and the Danube, or by land-carriage to Odessa for shipment to foreign countries, and that port stands in the same relation to the south of Europe as Dantzic does to the northern part. The principal supply is however brought to the town in carts drawn by oxen, from distances varying from 100 to 400 miles. On an average of the seven years ending 1840 the quantity brought to Odessa amounted to only 17,760 quarters annually. During 1838-9-40 the average price of the best Odessa wheat was 34*s*. 6*d*. The voyage to England is long, and there is great risk of the grain heating; the expenses of importation amount to 15*s*. or 16*s*., and even 20*s*. a quarter; and it could not be sold so low as Dantzic wheat, which is far superior to the former in quality. The corn-grower of Wallachia, Bulgaria, or Bessarabia, though he sells his wheat at 14*s*. or 15*s*. the quarter, cannot compete with the English grower who charges upwards of 50*s*. Mr. Jacob's account of the manner in which corn is transported to Odessa shows the physical impossibility of this competition becoming a matter of anxiety to the most timid agriculturist. He says:—"The small waggons with wheat begin to arrive at Odessa in the month of May, but the greater portion of them do not reach that place till June or July. Some days in the two latter months present the curious spectacle of five or six hundred, and occasionally of even a thousand, of these vehicles entering the city. Each of the waggons, drawn by two oxen, carries about four quarters;* so that in the year 1817, when the trade was the most extensive, there must have arrived, supposing three-fourths of the corn to have been brought by land-carriage, about 160,000 of these vehicles in the six months from May to October. In a country where the labour of man and of cattle, and the prices of the bare necessaries of life, are very cheap, this land-carriage maintains its due proportion of low rate. Two oxen cannot travel over such rugged hills and deep sands as are to be found between the corn-growing districts and Odessa, when drawing a ton weight, at a greater rate than ten English miles per day. Each hundred miles will thus require ten days' work for two oxen and one man to proceed to the port, and about seven days to discharge the loading and to return with the empty carriage. The rate of hire for a man and two oxen is, at least in Podolia, 6*d*. per day. Where pasture is abundant the oxen may be fed for a mere trifle; but in the journey of near 100 miles across the steppes, in the months when the greater number of carriages pass over it, the vegetation is wholly burnt up, which, with the scarcity of water, must cause some expense in the maintenance of the cattle. If for their food and water an allowance be made of 1*s*. 6*d*. for the seventeen days, and it be added to the hire of the man and the oxen, it will make the cost of conveyance for the four quarters of wheat amount to 2*s*. 6*d*. per quarter for each hundred miles." The labour of many years, and the outlay of capital which has yet to be created, will be required before these difficulties will be overcome, and the cost of transport diminished by good roads and other facilities.

The following table shows the countries which are capable of furnishing us with wheat, and the quantities with which they supplied us during three successive years of high prices.

An Account of the Quantities of Foreign and Colonial Wheat and Wheat-Flour brought into Consumption in the United Kingdom; stating the Quantities Imported from each Country during each Year from 1837 to 1839.

Countries from which Imported.	1837.	1838.	1839.
	Qrs	Qrs.	Qrs.
Russia	3,903	141,656	356,164
Sweden and Norway	252	358	567
Denmark	7,414	117,728	202,927
Prussia	148,077	839,513	704,992
Germany:—			
Mecklenburg	36,498	147,383	104,777
Hanover	125	24,359	19,195
Oldenburg and Kniphausen	..	15,201	16,698
Hanse Towns	10,637	204,553	267,183
Holland	2,222	82,737	117,677
Belgium	153	18,284	24,516
France	202	65,012	309,897
Portugal, Madeira, and the Azores	..	..	28,800
Spain and the Canaries	2	1,279	9,010
Gibraltar	..	..	4,753
Italy	1,011	55,735	334,313
Malta	..	14,956	17,211
Ionian Islands	..	5,391	13,583
Turkey and Egypt	258	5,515	45,183
Morocco	..	..	3,358
Cape of Good Hope	..	520	3
East India Company's Territories	7,516	9,649	5,015
N. S. Wales & Van Diemen's Land	117	4	..
British North American Colonies	25,745	19,597	[illegible],761
United States of America	112	27,047	87,528
Isles of Guernsey, Jersey, Alderney, and Man (Foreign Produce)	1	21,906	30,383
All other parts	..	84	929
Total	244,275	1,848,477	2,711,725

It will be seen from this table that the importations from the United States, British North America, and other distant corn-growing countries, are quite insignificant, under the uncertainties of a fluctuating duty. The risks of the trade are so great as to present few inducements to the merchant; and when purchases of corn are made to supply our wants, it is not the surplus stock raised for the English market that we obtain, but we enter in competition with the foreign consumer, and our necessities compel us to outbid him in his own market. If the trade were always open, England would become, as Holland was in the seventeenth century, the great entrepôt of the corn-producing countries throughout the world: large purchases would be made in abundant years, and ourselves as well as other European countries would be supplied by our merchants in years of scarcity. Sir Walter Raleigh remarked that "a dearth of only one year in any part of Europe enriches Holland for seven years;" and there can be no doubt that a new and very important branch of commerce would spring up if England attracted to its ports the surplus produce of grain in the different parts of the world.

* It has been recently ascertained that each of the waggons conveys eight sacks of wheat, the sack containing a Polish horsec, equal to three bushels and one peck, Winchester measure. The load of two oxen is thus three quarters and two bushels, instead of four quarters, as here calculated. The cost of conveyance, therefore, will amount to about one-fifth more than appears by the extract.

THE IMPERIAL PARLIAMENT.

By THOMAS ERSKINE MAY.

THE IMPERIAL PARLIAMENT is the legislature of the United Kingdom of Great Britain and Ireland, consisting of the king or queen, the lords spiritual and temporal, and the knights, citizens, and burgesses in parliament assembled.

The word is generally considered to be derived from the French, 'parler,' to speak. "It was first applied," says Blackstone, "to general assemblies of the states under Louis VII. in France about the middle of the twelfth century." The earliest mention of it in the statutes is in the preamble to the statute of Westminster 1st, A.D. 1272.

Origin and Antiquity of Parliament.

The origin of any ancient institution must be difficult to trace, when in the course of time it has undergone great changes; and few subjects have afforded to antiquaries more cause for learned research and ingenious conjecture than the growth of our parliament into the form which it had assumed when authentic records of its existence and constitution are to be found. Great councils of the nation existed in England both under the Saxons and Normans, and appear to have been common among all the nations of the North of Europe. They were called by the Saxons *michel-synoth*, or great council; *michel-gemote*, or great meeting; and *wittena-gemote*, meeting of wise men—by the last of which they are now most familiarly known. There appear to have been *wittena-gemotes* in each of the kingdoms composing the Saxon Heptarchy, and these, after the union of the kingdoms, became united into one great assembly or council.

The constitution of these councils cannot be known with any certainty, and there has been much controversy on the subject, and especially as to the share of authority enjoyed by the people. Different periods have been assigned for their admittance into the legislature. Coke, Spelman, Camden, and Prynne agree that the commons formed part of the great synods or councils before the Conquest; but how they were summoned, and what degree of power they possessed, is a matter of doubt and obscurity. Under the Saxon kings, the forms of local government were undoubtedly popular. The *shire-gemote* was a kind of county parliament at which the alderman or earl of the shire (being himself elected to that office by the freeholders) presided, with the bishop, the *shire-gerieve* (or sheriff), and the assessors appointed to assist their deliberations upon points of law. A shire-gemote was held twice a-year in every county, when the magistrates, thanes, and abbots, with all the clergy and landholders, were obliged to be present. A variety of business was conducted, but the proceedings of these assemblies generally partook more of the character of a court of justice than of a legislative body. That the wittena-gemote or national council was of an equally popular constitution with the shire-gemote is not so certain. If the smaller proprietors of land were not actually disqualified by law from taking part in the proceedings, yet their poverty and the distance of the council from their homes must generally have prevented them from attending. It has been conjectured that they were represented by their tithing-men, and the inhabitants of towns by their chief magistrates; but no system of political representation can be traced back to that time. ('Squire on the English Constitution,' pp. 130, 244; 'Henry's History of England,' vol. iii., p. 372.) In the absence of any such trace, however, Mr. Sharon Turner says, that "after many years' consideration of the question, he is inclined to believe that the Anglo-Saxon wittena-gemote [illegible] in the orders and persons that composed it; and that the members who attended as representatives were chosen by classes analogous to those who now possess the elective franchise." ('History of the Anglo-Saxons,' vol. iii., p. 180.) He considers it "incumbent on the historical antiquary to show, not when the people acceded to the wittena-gemotes, but when, if ever, they were divested of the right of attending them," as the German national councils, from which this Saxon institution derived its origin, were attended by all the people; and he argues that "the total absence of any document or date of the origin of the election of representatives by the freeholders of counties is the strongest proof we can have that the custom has been immemorial, and long preceded the Norman conquest. The facts that such representatives have been always called knights of the shire, and that milites, or an order like those afterwards termed knights, were part of the wittena-gemote, befriend this deduction." (*Ib.*, p. 184.)

As there are no records which can be held as conclusive upon this point of history, we must be satisfied with conjecture; and the liberal character of the other Saxon institutions inclines us to infer that, whether there was representation or not, the commonalty had a share in the government. That we are indebted to our Saxon ancestors for the germs of our free institutions there can be no doubt, though we cannot trace their growth so distinctly as we could wish. That the people were frequently present at the deliberations of the wittena-gemots, and that the authority of their name was used, appears from many records; but whether as witnesses (in which capacity they are sometimes spoken of), or because their presence was necessary to give effect to laws, is not so clear. In the reign of Ethelwolf, A.D. 855, a great council was held at Winchester, in which a tenth of the whole nation was given to the church by "the king, the barons, and the people in an infinite multitude," but the nobles only signed the law. ('Ingulf,' p. 863.) A "copious multitude of people, with many knights," is also said to have attended a similar council in the fifth year of the reign of King Canute, but it does not appear that the people took any part in the proceedings, save as spectators. In Edward the Confessor's law *de Apibus* a tenth is confirmed to the church "by the king, the barons, and the people;" but in other laws of the same king the whole authority of the state is declared to be vested in the king, acting with the advice of his barons.

The Normans were not likely to advance the pretensions of the people whom they had conquered. Theirs was an oppressive feudal government, at variance with popular privileges. All rank and property was the gift of the crown, involving military service and subordination. Spelman, in his treatise on Parliaments, thus describes the political condition of the commonalty under the feudal system:—"Every lord having authority over his tenant, the superiour, as comprehending them all, and holding *in capite* (*i. e.* in chief, or direct from the king), was tied to the king to see all under his tenure to be of good government. . . . By reason whereof, whatsoever these their lords agreed or disagreed unto in matters of the state and commonwealth, it did bind every of them their inferiours. . . . Hence it comes to pass, that in making laws of the kingdom, the common people were not consulted with, but only the barons, or those which held *in capite*, who then were called 'consiliarii regni.'" ('Reliquiae [illegible] tuted since the Conquest. Here again no positive evidence is supplied by our records. The laws and charters of the early Norman kings constantly mention councils of bishops, abbots, barons, and the chief persons of the kingdom, but are silent as to the *commons*. In the 22nd year of Henry II. (A.D. 1176), Benedict Abbas, one of our old monkish annalists, relates, that about the feast of St. Paul, the king came to Northampton, and there held a great council concerning the statutes of his realm, in the presence of the bishops, earls, and barons of his dominions, and with the advice of his knights and *men*. This is the first record which appears to include the commons in the national councils.

Forty years afterwards the great charter of King John throws a light upon the constitution of parliament which no earlier record had done; but even there the origin of a representative system is left in obscurity. It reserves to the city of London, and to all other cities, boroughs, and towns, and to the Cinque ports and other ports, all their ancient liberties and free customs; but whether the summons to parliament which is there promised was then first instituted, or whether it was an ancient privilege confirmed and guaranteed for the future, the words of the charter do not sufficiently explain. From this time, however, may be clearly traced the existence of a parliament similar to that which has continued to our own days. "The main constitution of parliament, as it now stands," says Blackstone, "was marked out so long ago as the seventeenth year of King John, A.D. 1215, in the great charter granted by that prince, wherein he promises to summon all archbishops, bishops, abbots, earls, and greater barons personally, and all other tenants in chief under the crown by the sheriff and bailiffs, to meet at a certain place, with forty days' notice, to assess aids and scutages when necessary; and this constitution has subsisted, in fact at least, from the year 1266, 49 Hen. III., there being still extant writs of that date to summon knights, citizens, and burgesses to parliament." There are writs of an earlier date than that mentioned by Blackstone in the 49 Hen. III., which involve the principle of representation, though not to the same extent. One, in the 38th year of that reign, requires the sheriff of each county to cause to come before the king's council two good and discreet knights of his county, *whom the men of the county shall have chosen for this purpose*, in the stead of all and each of them, to consider, along with the knights of other counties, what aid they will grant the king." ('2 Prynne's Register,' p. 23.) This, however, was for a particular occasion only; and to appear before the council is not to vote as an estate of the realm. Nevertheless, representation of some kind then existed, and it is interesting to observe how early the people had a share in granting subsidies. Another writ in 1261 directs the sheriffs to cause knights to repair from each county to the king at Windsor. It only remains to notice a statute passed 15 Edw. II. (1322), which declares that "the matters to be established for the estate of the king and of his heirs, and for the estate of the realm and of the people, should be treated, accorded, and established in parliament, by the king and by the assent of the prelates, earls, and barons, and the commonalty of the realm, *according as had been before accustomed*." In reference to this statute Mr. Hallam observes, "that it not only establishes by a legislative declaration the present constitution of parliament, but recognises it as already standing upon a custom of some length of time." ('1 Const. Hist.,' p. 5.)

CONSTITUENT PARTS OF PARLIAMENT.

The parliament is composed of the king or queen, and the three estates of the realm,—the lords spiritual, the lords temporal, and the commons. The kingly office is hereditary, but subject to any limitations, both as to power and law of succession, which may be imposed by the authority of parliament, for the time being. The statute 6 Anne, c. 7, declares it high treason for any one to maintain and affirm by writing, printing, or preaching, "that the kings or queens of this realm, by and with the authority of parliament, are not able to make laws and statutes of sufficient force and validity to limit and bind the crown, and the descent, limitation, inheritance, and government thereof." The crown possesses no prerogatives but such as are recognised by the law. The act 12 and 13 Will. III. c. 2, declares "that the laws of England are the birthright of the people thereof; and all the kings and queens who shall ascend the throne of this realm ought to administer the government of the same according to the said laws; and all their officers and ministers ought to serve them respectively according to the same."

Into the general prerogatives of the crown it is not proposed to enter; but such as have immediate connexion with parliament require a brief notice. The legal existence of parliament depends upon the exercise of royal prerogative. As the head of the church, the king appoints all archbishops and bishops, who form one of the three estates of the realm, and, as "lords spiritual," hold the highest rank, after princes of the blood royal, in the House of Lords. All titles of honour are his gift, and thus the "lords temporal" also, who form the remainder of the highest legislative body, are entirely of his creation. In early times the summons of peers to attend parliament depended entirely on the will or caprice of the king; but their hereditary titles have long since been held to confer a right to sit in parliament. To a king's writ, also, even the commons owe their legal existence. What has been already said concerning the presence of the commons in parliament is sufficient to show the obscurity in which their early history is veiled previously to the reign of King John; and thenceforward, when their history is no longer obscure, we still find them summoned by writs issued by the king, and this is the practice to the present day. In addition to these powers the king possesses various other privileges and functions in connexion with parliament, which will be more conveniently explained hereafter.

Archbishops and bishops, we have seen, held a prominent place in the great Saxon councils, and under the Norman kings they still retained it. They have always had a seat in parliament, but by what right is not agreed upon. In the Saxon times there is no doubt that they sat as bishops by virtue of their ecclesiastical office; but it is said that "William the Conqueror thought proper to change the spiritual tenure of frank-almoign, or free alms, under which the bishops held their lands under the Saxon government, into the feudal or Norman tenure by barony; and in right of succession to those baronies, which were unalienable from their respective dignities, the bishops and abbots were allowed their seats in the House of Lords." ('Blackstone's Com.,' p. 156.) Mr. Hallam considers this view of the rights of the English hierarchy too contracted, and maintains that the bishops of William the Conqueror were entitled to sit in his councils by the general custom of Europe, which invited the superior ecclesiastics to such offices, and by the common law of England, which the Conquest did not overturn. ('Middle Ages,' vol. iii., pp. 6, 7.) Another view of the question is, that the abbots only had a seat in parliament solely by virtue of their *tenures as barons*; but that the bishops sat in a double capacity, as bishops and as barons. ('Hody's Treatise on Convocations,' p. 126.) Their presence in parliament, however, has been uninterrupted, whatever changes may have been effected in the nature of their tenure. In the Church of England there are two archbishops (Canterbury and York), and twenty-four bishops: and under the Act of Union four bishops of the Church of Ireland sit with them as lords spiritual, by rotation of sessions, in the Imperial Parliament. These, together, form the estate of lords spiritual.

The lords temporal are divided into dukes, marquesses, earls, viscounts, and barons. These titles are of different degrees of antiquity and honour. That of duke, though first in rank, is by no means the most ancient in this country. Among the Saxons *duces* (or leaders) are frequently mentioned; but the title was first conferred after the Conquest by Edward III. upon his son Edward the Black Prince, whom he created Duke of Cornwall. Marquesses were originally lords of the marches or borders, and derived their title from the offices held by them. The earliest creation of a marquess as a title of honour was in the 8th year of Richard II. The title of earl is the same as that of alderman amongst the Saxons. They conducted the government of counties both under the Saxon and Norman kings. After the Conquest, the French title of count was applied to them, whence the shires over which they presided have ever since been called counties. Their wives, also, are called countesses. The title of viscount was first created in the reign of Henry VI. Barons appear to have been tenants *in capite*, or lords of manors. The title was subject to variations in regard to dignity. There were greater and lesser barons, and latterly the former only were summoned to parliament. All these titles are now conferred by the king without reference to their origin, and independently of any office or territorial possession.

On the Union of Scotland in 1707 the Scottish peers were not admitted to the English parliament; but they elect for each parliament 16 representatives from their own body, who must be descended from peers at the time of the Union. Under the act of Union with Ireland, which came into operation in 1801, the Irish peers elect 28 representatives for life from the peerage of Ireland. The power of the king to add to the number of Irish peers is subject to limitation. He may make promotions in the peerage at all times; but he can only create a new Irish peer whenever three of the peerages of Ireland which were in existence at the time of the Union have become extinct. But if it should happen that the number of Irish peers—exclusive of those holding any peerage of the United Kingdom, which entitles them to an hereditary seat in the House of Lords—should be reduced to 100, then one new Irish peerage may be created as often as one becomes extinct, or whenever an Irish peer becomes entitled, by descent or creation, to an hereditary seat in the imperial parliament; the true intent and meaning of that article of Union being to keep up the Irish peerage to the number of 100. (4th Art. of Union.)

These, then, are the component parts of the House of Lords. The number of British peerages of different ranks has been greatly augmented from time to time, and there is no limitation to the power of the crown to add to it by further creations. The present number of each class may be best exhibited by the following table:—

LORDS SPIRITUAL.

2 archbishops (Canterbury and York).
24 English bishops.
4 Irish representative bishops.

Total, 30

LORDS TEMPORAL.

3 dukes of the blood royal.
21 dukes.
20 marquesses.
114 earls.
20 viscounts.
211 barons.
16 representative peers of Scotland.
28 representative peers of Ireland.

Total, 433

There are likewise at the present time eleven peeresses in their own right, by creation or descent.

The House of Commons consists of knights of shires, or the representatives of counties; citizens, or the representatives of cities; and burgesses, or the representatives of boroughs. We have seen that all these were distinctly summoned to attend parliament in the 49th year of Henry III. What the number was at that time does not appear, but it has since varied greatly at different periods. In addition to those boroughs which appear from the first to have returned burgesses to parliament, many others had that privilege conferred upon them by charter or by statute in succeeding reigns, while some were discharged from what they considered, at that time, a heavy burthen, viz., the expense of maintaining their members. In the time of Edward III. 4*s*. a day were allowed to a knight of the shire, and 2*s*. to a citizen or burgess ('4 Inst. 16'); and this charge was, in the case of poor and small communities, too great an evil to be compensated by the possible benefit of representation. In the reign of Henry VI. there were not more than 300 members of the House of Commons. The legislature added 27 for Wales and 4 for the county and city of Chester, in the reign of Henry VIII., and 4 for the county and city of Durham in the reign of Charles II., while 180 new members were added by royal charter between the reigns of Henry VIII. and Charles II. ('Christian's Notes to Blackstone'). Forty-five members were assigned to Scotland, as her proportion of members in the British parliament, on the union of that kingdom with England; and 100 to Ireland at the commencement of the present century, on incorporating her parliament with that of the United Kingdom. These successive additions brought the number to 658, which, notwithstanding the alterations effected in the distribution of the elective franchise by the Reform Acts in 1832, remains the same to the present day.

To explain fully these alterations would far exceed the limits of this paper; but a brief outline of them may be attempted. The object of the English Act, as stated in the preamble, was to correct divers abuses that had long prevailed in the choice of members, to deprive many inconsiderable places of the right of returning members, to grant such privilege to large, populous, and wealthy towns; to increase the number of knights of the shire; to extend the elective franchise to many of his Majesty's subjects who have not heretofore enjoyed the same, and to diminish the expense of elections. To effect this, 56 boroughs in England and Wales were entirely disfranchised, and 30 others, which had previously returned 2 members, now send only 1; 22 new boroughs were created, each to return 2; and 20 more, to each of which 1 only was given. Several small boroughs in Wales were united for the purpose of contributing to return a member. The result of these and other local arrangements, which it is not necessary to describe, is as follows:—The city of London has the privilege of returning 4 members; 135 cities and boroughs (including the two universities of Oxford and Cambridge), returning each 2 members, contribute 270; and 67, returning each 1 member, send 67 more. There are thus 341 citizens and burgesses altogether in England and Wales. Several of the counties were divided into electoral districts, by which the number of knights of the shire was increased.

The county of York has 2 members for each of the three ridings			6
26 Counties have	4	members each	104
7 ,,	3	,,	21
9 ,,	2	,,	18
10 ,,	1	,,	10
			159

The number of members for Scotland was increased by the Scotch Reform Act from 45 to 53, 30 of whom are knights of shires, and 23 citizens and burgesses, representing towns, boroughs, or districts of small boroughs. By the Irish Reform Act the number of Irish representatives also was increased from 100 to 105, 64 being for counties, and 41 for cities and boroughs.

The following is a statement of the entire representation of the three kingdoms, composing the House of Commons:

ENGLAND AND WALES.

159 knights of shires.
341 citizens and burgesses.

Total 500

SCOTLAND.

30 knights of shires.
23 citizens and burgesses.

Total 53

IRELAND.

64 knights of shires.
41 citizens and burgesses.

Total 105
Total of the United Kingdom, 658.

The classes of persons by whom these representatives are elected may be described generally in few words, if the legal questions connected with the *franchise*, which are both numerous and intricate, be avoided. To begin with the English Counties. Before the 8th of Henry VI. all freeholders had a right to vote (or, as is affirmed by some, all freemen); but by a statute passed in that year (c. 7) the right was limited to "people dwelling and resident in the same counties, whereof every one of them shall have free land or tenement to the value of 40*s*. by the year, at the least, above all charges." By the Reform Act *every person, being of full age*, and not subject to any legal incapacity, who, at the time of the passing of the act, *was seised for his own life*, or the life of another, or for any lives whatever, of a 40*s*. freehold; or who may be seised *subsequently to the passing* of the act, provided he be in actual and *bonâ fide* occupation; or who may come into such freehold estate by marriage, marriage settlement, devise, or promotion to any benefice or office, is still entitled to vote as a freeholder; but any person not included in these classes acquiring a freehold subsequently to the act, is only entitled when *it shall be* "to him of the clear yearly value of not less than 10*l.* above all rents and charges payable out of or in respect of the same." Copyholders *having an estate of* 10*l.*, a-year; leaseholders of land of that value whose leases were originally granted for 60 years; *leaseholders* of 50*l.*, with 20 years' leases; and tenants at will occupying lands or tenements paying a rent *of not less than 50l.* a-year, had the *right of voting conferred* by the Reform Act. In cities and boroughs the right of voting formerly varied, according to the ancient custom in each. With certain modifications many of these ancient rights were retained by the Reform Act, as that of freemen, and other corporate qualifications; and the occupiers of houses of the clear yearly value of 10*l.* were added to the old constituencies. From whatever right these various classes of persons claim to vote, either for counties or *for* cities and boroughs, it is necessary that they shall be registered in lists prepared by the overseers of each parish; and on certain days courts are held, by barristers appointed by the judges for that purpose, to revise these lists, when objections may be made to any name inserted by the overseers, and if held to be sufficient the name is struck off the list, and the claimant will have no right to vote at any ensuing election until he shall have succeeded at subsequent registrations in establishing his claim.

The Scotch Reform Act reserved the rights of all persons then on the roll of freeholders of any county, or who were entitled to be put upon it, and extended the franchise to all owners of property of the clear yearly value of 10*l.*, and to certain classes of leaseholders. In cities and boroughs the Act substituted a 10*l.* household-franchise for the system of electing members by the town councils, which had previously existed. The lists of claimants are made up in counties by the schoolmasters of each parish, and in boroughs by the town-clerks, and the claims and objections are heard and determined by the sheriffs.

In Ireland the electors for counties, as settled by the Reform Act for that country, consist of 50*l.* freeholders, 20*l.* and 10*l.* freeholders, and leaseholders of different descriptions, and rent-chargers. In cities and counties of towns, in addition to the county constituencies, there are 40*s*. householders, 10*l.* leaseholders, and freemen. In boroughs there are freeholders, freemen, 10*l.* householders, and a few 5*l.* householders, whose rights existed before the passing of the Act. Claims and objections are determined by the assistant barristers at special sessions.

It has not been attempted to explain in detail all the distinctions of the elective franchise, neither is it proposed to state all the grounds upon which persons may be disqualified from voting. Aliens, persons under twenty-one years of age, of unsound mind, in receipt of parochial relief, or convicted of certain offences, are incapable of voting. Many officers also concerned in the collection of the revenue are disqualified.

To be eligible as a member, a person must possess the property-qualification required by the Act 1 and 2 Vict. c. 48, viz., to be a knight of the shire, he must be entitled, for his own use and benefit, to real or personal property, or both together, to the amount of 600*l.* a-year; and to be a citizen or burgess, he must be entitled to one-half the amount of that qualification. Before the passing of that Act a freehold property in land to the amount of 600*l.* and 300*l.* a-year respectively alone conferred the *necessary* qualification.

Members for the Universities of Oxford and Cambridge, and Trinity College, Dublin, require no qualification; and the eldest sons or heirs apparent of peers, or of persons qualified to be knights of the shire, are, by law, qualified to serve without having the property required by others. In Scotland no property-qualification is *established*.

There are other requisites besides property to enable persons to sit in Parliament. Formerly it was necessary that the member chosen should be himself one of the body represented. The law, however, was constantly disregarded, and in 1771 was repealed. An alien is not eligible. The Act 12 and 13 Will. III. declares that "no person born out of the kingdoms of England, Scotland, or Ireland, or the dominions thereunto belonging (although he be naturalized or made a denizen, except such as are born of English parents), shall be capable to be of the privy council or a member of either house of parliament." The 1 Geo. I. stat. 2, c. 4, in order to enforce more strongly the provisions of the Act of William, enacts that "no person shall hereafter be naturalized, unless in the bill exhibited for that purpose there be a clause or particular words inserted to declare that such person is not thereby enabled to be a member of either house of parliament;" but as no clause of this nature can bind any future parliament, it has been customary to repeal it in particular cases by a previous Act, and then to pass the Act for naturalization without any restriction, as was done in respect to Prince Leopold in 1816, and Prince Albert in 1840. A member must be of age. Before the 7 and 8 Will. III. c. 25, which declared the law, it was not unusual for minors to sit and vote. On the 16th of December, 1690, on the hearing of a controverted election, Mr. Trenchard was admitted by his counsel to be a minor; but, notwithstanding, upon a division was declared to be duly elected. (2 Hats. Prec. 9. 10 Comm. Journ. 508.)

Mental imbecility is a disqualification: and should a member, who was sane at the time of his election, afterwards become a lunatic, his seat may be avoided, as in the case of Grampound in 1566. (D'Ewes, 126; Rogers, 57.) English peers are ineligible to the House of Commons, as having a seat in the upper house; and Scotch peers, as being represented there: but Irish peers, unless elected as one of the representative peers of Ireland, may sit for any place in *Great Britain*. The English, Scotch, and Irish judges (with the exception of the Master of the Rolls in England) are disqualified (Comm. Journ. 9th Nov. 1608; 7 Geo. II. c. 16; 1 and 2 Geo. IV. c. 44), together with the holders of various offices particularly excluded by statute. A large class of offices which incapacitate the holders for parliament are *new offices*, or places of profit under the crown, created since the 25th of October, 1705, as defined by the 6th of Anne, c. 7. Clergymen are ineligible. This was a doubtful point until the 41st Geo. III., c. 63, which arose out of Mr. Horne Tooke's election, declared that "no person having been ordained to the office of priest or deacon, or being a minister of the church of Scotland, is capable of being elected; and if he sits or votes, he is liable to forfeit 500*l.* for each day, to any one who may sue for it. The Roman Catholic clergy are also excluded by 10 Geo. IV. c. 7, s. 9. Government contractors, being supposed to be liable to the influence of their employers, are disqualified from serving in Parliament. The Act 22 Geo. III. c. 45, declares that any person who shall, directly or indirectly, himself, or by any one in trust for him, undertake any contract with a government department, shall be incapable of being elected, or of sitting or voting during the time he shall hold such contract, or any share thereof, or any benefit or emolument arising from the same. The Act does not affect incorporated trading companies, contracting in their corporate capacity. The penalties for violations of the Act are peculiarly severe. A contractor sitting or voting is liable to forfeit £500 for every day on which he may sit or vote, to any person who may sue for the same; and every person against whom this penalty shall be recovered is incapable of holding any contract. The Act goes still further (s. 10), and even imposes a penalty of £500 upon any person who admits a member of the House of Commons to a share of a contract.

By the 52 Geo. III. c. 144, whenever a member shall be found and declared a bankrupt, he shall be for twelve months incapable of sitting and voting, unless the commission be superseded, or the creditors paid or satisfied to the full amount of their debts. At the expiration of twelve months the Commissioners are required to certify the bankruptcy to the Speaker, and the election of the member is void. In this Act there is no penalty for a bankrupt sitting and voting; and as no official notice of his bankruptcy is required to be given to the Speaker for twelve months, it seems that he might sit with impunity in the mean time, unless petitioned against.

These are the chief but not the only grounds of disqualification for sitting in the House of Commons. Many others will be found collected in the various works upon Election Law, where, also, those which have been touched upon in this place are more fully detailed. (Rogers, Shepherd, Stephens, &c.)

To these explanations concerning the persons of whom parliament is composed, it is not necessary to add any particulars as to the mode of election, farther than that the elections are held by the sheriffs or other returning officers, in obedience to a king's writ out of Chancery, and are determined by the majority of registered voters.

The lords and commons originally were one assembly, but the date of their separation is not known. Sir Edward Coke states that he had seen a record, 30 Hen. I. (1130), of their degrees and seats as one body, and affirms that the separation took place at the desire of the commons. (13 'State Trials,' 1410.) Elsynge avers that "the commons ever had a place for their consultation apart from the lords, though they did often meet and sit together in one room," and he gives several precedents in support of his position. ('Manner of Holding Parliaments,' pp. 101-104, 155.)

Power and Jurisdiction of Parliament.

1. Legislative Authority collectively.—The authority of parliament extends over the United Kingdom and all its colonies and foreign possessions. There are no other limits to its power of making laws for the whole empire than those which are common to it and to all other sovereign authority, the willingness of the people to obey, or their power to resist them. It has power to alter the constitution of the country, for that is the constitution which the last act of parliament has made. It may take away life by acts of attainder, and make an alien be as a natural-born subject.

Parliament does not in the ordinary course legislate directly for the colonies. For some, the queen in council legislates, and others have legislatures of their own, and propound laws for their internal government, subject to the approval of the queen in council; but these may afterwards be repealed or amended by statutes of the Imperial Parliament. Their legislatures and their laws are both subordinate to the supreme power of the mother country. The constitution of Lower Canada was suspended in 1838; and a provisional government, with legislative functions and great executive powers, was established by the British parliament. Slavery was abolished by an act of parliament in 1833 throughout all the British possessions, whether governed by local legislatures or not; but certain measures for carrying into effect the intentions of parliament were left for subsequent enactment by the local bodies, or by the queen in council. The house of assembly of Jamaica, the most ancient of our colonial legislatures, had neglected to pass an effectual law for the regulation of prisons, which became necessary upon the emancipation of the negroes, and parliament immediately interposed and passed a statute for that purpose. The assembly were indignant at the interference of the mother country, and neglected their functions, until an act was passed by the imperial parliament which would have suspended the constitution of Jamaica unless within a given time they resumed them.

The power of imposing taxes upon colonies for the support of the parent state was attempted to be exercised by parliament in the case of the provinces of North America; but this attempt was the immediate occasion of the severance of that great country from our own. The injustice and hardship of colonial taxation may be admitted; but whatever may be urged against it on grounds of morality or expediency, the legal right of parliament to impose taxes upon all persons within the British dominions is unquestionable.

There are some subjects indeed upon which parliament, in familiar language, is said to have no right to legislate; such, for instance, as the Church; but no one, who thinks correctly, can intend more by that expression than that it is inexpedient to make laws as to such matters. The very prayers and services of the Church are prescribed by statute. Parliament has changed the professed religion of the country, and has altered the hereditary succession to the throne. To conclude, in the words of Sir Edward Coke, the power of parliament "is so transcendent and absolute, that it cannot be confined, either for causes or persons, within any bounds."

2. Distribution of Powers between King, Lords, and Commons.—Custom and convenience have assigned to different branches of the legislature peculiar powers; but they are subject to any limitation or even transference which parliament may think fit. The king swears at the coronation to govern "according to the statutes in parliament agreed upon," and these of course may be altered. Prerogatives of the crown which have ever been enjoyed might yet be taken away by the king, with the consent of the three estates of the realm. The king sends and receives ambassadors, enters into treaties with foreign powers, and declares war or peace, without the concurrence of lords and commons; but these things he cannot do without the advice of his ministers, who are responsible to parliament. Without entering into a view of his general prerogatives, it will be necessary to advert to certain parliamentary functions exercised by him, which are most important in the business of legislation.

Summons.—It is by the act of the king alone that parliament can be assembled. There have been only two instances in which the lords and commons have met of their own authority, namely, previously to the restoration of King Charles II., and at the Revolution in 1688.

The first act of Charles II.'s reign declared the lords and commons to be the two houses of parliament, notwithstanding the irregular manner in which they had been assembled, and all their acts were confirmed by the succeeding parliament summoned by the king; which however qualified the confirmation of them by declaring that "the manner of the assembling, enforced by the difficulties and exigencies which then lay upon the nation, is not to be drawn into example." In the same manner the first act of the reign of William and Mary declared the convention of lords and commons to be the two houses of parliament, as if they had been summoned according to the usual form, and the succeeding parliament recognised the legality of their acts. But although the king may determine the period for calling parliaments, his prerogative is restrained within certain limits; as he is bound by statutes (16 Charles II. c. 1, and 6 Will. and Mary, c. 2) to issue writs within three years after the determination of any parliament; while the practice of providing money for the public service by annual enactments renders it compulsory upon him to meet parliament every year.

There is one contingency upon which the parliament may meet without summons, under the authority of an act of parliament. It was provided by the 6 Anne, c. 7, that, "in case there should be no parliament in being at the time of the demise of the crown, then the last preceding parliament should immediately convene and sit at Westminster, as if the said parliament had never been dissolved." By the 37 Geo. III. c. 127, a parliament so revived would only continue in existence for six months, if not sooner dissolved.

As the king appoints the time and place of meeting, so also at the commencement of every session he declares to both houses the cause of summons by a speech delivered to them in the House of Lords by himself in person, or by commissioners appointed by him. Until he has done this, neither house can proceed with any business.

The causes of summons declared do not make it necessary for parliament to consider them only, or to proceed at once to the consideration of any of them. After the speech, any business may be commenced; and the commons, in order to assert their right to act without reference to any authority but their own, invariably read a bill a first time *pro formâ* before they take the speech into consideration. Other business is also done very frequently at the same time. New writs are issued for places which have become vacant during a recess, returns are ordered, and even addresses are presented on matters unconnected with the speech. In 1840 a question of privilege, arising out of the action of Stockdale against the printers of the house, was entertained before any notice was taken of her Majesty's speech.

Prorogation and Adjournment.—Parliament, it has been seen, can only commence its deliberations at the time appointed by the king; neither can it continue them any longer than he pleases. He may prorogue parliament by having his command signified in his presence by the lord chancellor or speaker of the House of Lords to both houses, or by writ under the great seal, or by commission. The effect of a prorogation is at once to suspend all business until parliament may be summoned again. Not only are the sittings of parliament at an end, but all proceedings pending at the time, except impeachments by the commons, are quashed. A bill must be renewed after a prorogation, as if it had never been introduced, though the prorogation be for no more than a day. William III. prorogued parliament from the 21st of October, 1689, to the 23rd, in order to renew the Bill of Rights, concerning which a difference had arisen between the two houses that was fatal to it. It being a rule that a bill cannot be passed in either house twice in the same session, a prorogation has been resorted to in other cases to enable a second bill to be brought in.

Adjournment is solely in the power of each house respectively. It has not been uncommon indeed for the king's pleasure to be signified, by message or proclamation, that both houses should adjourn. Either of them however may decline complying with what can be considered as no more than a request. Business has frequently been transacted after the king's desire has been made known, and the question for adjournment has afterwards been put in the ordinary manner.

Dissolution.—The king may also put an end to the existence of parliament by a dissolution. He is not however entirely free to define the duration of a parliament, for after seven years it ceases to exist under the statute of George I., commonly known as the Septennial Act. Before the Triennial Act, 6 William and Mary, there was no limit to the continuance of a parliament, except the will of the king. Parliament is dissolved by proclamation, after having been prorogued to a certain day. This practice, according to Hatsell, "which has now been uniform for above a century, has probably arisen from those motives that are suggested by Charles I., in his speech in 1628, 'that it should be a general maxim with kings themselves only to execute pleasing things, and to avoid appearing personally in matters that may seem harsh and disagreeable.'"

In addition to these several powers of calling a parliament, appointing its meeting, directing the commencement of its proceedings, determining them for an indefinite time by prorogation, and finally of dissolving it altogether, the crown has other parliamentary powers, which will hereafter be noticed in treating of the functions of the two houses.

The judicial functions of the lords, and their right to pass bills affecting the peerage which the commons may not amend, are the only properties peculiar to them, apart from their personal rights and privileges.

Supply.—The chief powers vested in the House of Commons are those of imposing taxes and voting money for the public service. Bills for these purposes can only originate in that house, and the lords may not make any alterations in them, except for the correction of clerical errors.

Many disputes between the two houses have arisen in the exercise of the privileges of the commons in matters of supply, but these are so well understood and acknowledged, and the precedents which illustrate them are so numerous, that there is now little difficulty in determining where they have been infringed. If the lords insist upon retaining any clause or amendment involving an intrusion upon the privileges of the commons, the commons must throw out the bill. It is customary, in cases where the commons have no objection to the words, but only to their introduction by the lords, to bring in a new bill themselves, containing those words, and to send it up to the lords for their agreement. On the opening of parliament the king directs estimates of the sums required for the various departments of the public service to be laid before the house, but the amount of these may be varied by the commons at pleasure. Grants of money for objects not included in the estimates cannot be made without the king's recommendation being signified. The king, however, though he originates these grants, has no further power in matters of taxation and supply than that of giving his assent to bills which have been agreed to by both houses of parliament. Violations of this constitutional law had not been unfrequent before the Revolution of 1688, and then it was expressly declared in the Bill of Rights, "that levying money for or to the use of the crown by pretence of the prerogative without grant of parliament, for longer time or in other manner than the same is or shall be granted, is illegal." The commons will not allow the right of the lords to insert in a bill any pecuniary penalties or to alter the amount or application of any penalty imposed by themselves; but the rigid assertion of this rule was found to be attended with much inconvenience, and a standing order was made in 1831, directing the Speaker in each case to report whether the object of the lords appears to be "to impose, vary, or take away any pecuniary charge or burthen on the subject," or "only to relate to the punishment of offences; and the house shall determine whether it may be expedient in such particular case to insist upon the exercise of their privilege."

Right of determining Elections.—Another important power peculiar to the commons is that of determining all matters touching the election of their own members, and involving therein the rights of the electors. Upon the latter portion of their right a memorable contest arose between the lords and commons in 1704. Ashby, a burgess of Aylesbury, brought an action at common law against the returning-officers of that town for having refused to permit him to give his vote at an election. A verdict was obtained by him, but a judgment was given against him in the Queen's Bench, which was reversed by the House of Lords upon a writ of error. The commons declared that "the determination of the right of election of members to serve in parliament is the proper business of the House of Commons, which they would always be very jealous of, and this jurisdiction of theirs is uncontested; that they exercise a great power in that matter, for they oblige the officer to alter his return according to their judgment; and that they cannot judge of the right of election without determining the right of the electors; and if electors were at liberty to prosecute suits touching their right of giving voices in other courts, there might be different voices in other courts, which would make confusion, and be dishonourable to the House of Commons: and that therefore such an action was a breach of privilege." In addition to the ordinary exercise of their jurisdiction as regarded the right of elections, the commons relied upon an act of the 7 Will. III. c. 7, by which it had been declared that "the last determination of the House of Commons concerning the right of elections is to be pursued." On the other hand, it was objected that "there is a great difference between the right of the electors and the right of the elected: the one is a temporary right to a place in parliament *pro hac vice*; the other is a freehold or a franchise. Who has a right to sit in the House of Commons, may be properly cognizable there; but who has a right to choose, is a matter originally established, even before there is a parliament. A man has a right to his freehold by the common law, and the law having annexed his right of voting to his freehold, it is of the nature of his freehold, and must depend upon it. The same law that gives him his right must defend it for him, and any other power that will pretend to take away his right of voting may as well pretend to take away the freehold upon which it depends." These extracts from the Report of a Lords' Committee, 27 March, 1704, upon the conferences and other proceedings in the case of Ashby and White, give an epitome of the main arguments upon which each party in the contest relied. The whole of this Report, together with another of the 13th March, may be read with great interest.

Encouraged by the decision of the House of Lords, five other burgesses of Aylesbury, now familiarly known as "the Aylesbury men," commenced actions against the constables of their town, and were committed to Newgate by the House of Commons for a contempt of their jurisdiction. They endeavoured to obtain their discharge on writs of *habeas corpus*, but did not succeed. The commons declared their counsel, agents, and solicitors guilty of a breach of privilege, and committed them also. Resolutions condemning these proceedings were passed by the lords; conferences were held, and addresses presented to the queen. At length the queen came down and prorogued parliament, and thus put an end to the contest and to the imprisonment of the Aylesbury men and their counsel.

The question which was agitated at that time has never since arisen. The commons have continued to exercise the sole right of determining whether electors have had the right to vote, while inquiring into the conflicting claims of candidates for seats in parliament, and specific modes for trying the right of election by the house have been prescribed by statutes, and its determination declared to be "final and conclusive in all subsequent elections, and to all intents and purposes whatsoever."

Connected with the right of the commons to adjudicate upon all matters relating to elections, may be mentioned their power as to the eligibility of candidates. John Wilkes was expelled, in 1764, for being the author of a seditious libel. In the next parliament (February 3, 1769) he was again expelled for another libel; a new writ was ordered for the county of Middlesex, which he represented, and he was re-elected without a contest; upon which it was resolved, on the 17th of February, "that, having been in this session of parliament expelled this house, he was and is incapable of being elected a member to serve in this present parliament." The election was declared void, but Mr. Wilkes was again elected, and his election was once more declared void, and another writ issued. A new expedient was now tried. Mr. Luttrell, then a member, accepted the Chiltern Hundreds, and stood against Mr. Wilkes at the election, and, being defeated, petitioned the house against the return of his opponent. The house resolved that, although a majority of the electors had voted for Mr. Wilkes, Mr. Luttrell ought to have been returned, and they amended the return accordingly. Against this proceeding the electors of Middlesex presented a petition, without effect, as the house declared that Mr. Luttrell was duly elected. The whole of these proceedings were severely condemned, and on the 3rd of May, 1782, the resolution of the 17th of February, 1769, was ordered to be expunged from the journals as "subversive of the rights of the whole body of electors of this kingdom." A resolution similar to that expunged had been passed in the case of the unfortunate Hall, in 1580, as part of the many punishments inflicted upon him, which we shall presently have occasion to mention.

Oaths.—The power of administering oaths exercised by the lords is not claimed by the House of Commons. They formerly endeavoured to attain the end supposed to be secured by the administration of an oath, by resorting to the authority of justices of the peace who happened to be members of their own body; but all such expedients have long since been abandoned, and witnesses guilty of falsehood are punished by the house for a breach of privilege, not being amenable to the laws regarding perjury. Election committees have power by statute to administer oaths, and witnesses giving false evidence are guilty of perjury.

3. PRIVILEGES.—Both houses of parliament possess various rights and privileges for the maintenance of their collective authority, and for the protection, convenience, and dignity of individual members. At the commencement of each parliament, it is usual for the Speaker to lay claim to certain privileges, on behalf of the commons, which are thus briefly stated in his petition to the king after his approval at the bar of the House of Lords:—"That their persons, their estates and servants may be free from arrests and all molestations; that they may enjoy liberty of speech in all their debates; may have access to his Majesty's royal person whenever occasion shall require; and that all their proceedings may receive from his Majesty the most favourable construction." These privileges the Speaker has "laid claim to of the king" since the reign of Henry VIII., but they appear to have been always enjoyed with equal certainty before that time. Some of them have been subsequently confirmed, modified, and even abolished by acts of parliament; but the petition of the Speaker remains unchanged, and, as will presently be seen, prays for some privileges which have been disallowed by law since the original form was adopted.

Commitment and Fines.—The power of commitment for contempt has always been exercised by both houses. It has been repeatedly brought under the cognizance of the courts, and allowed without question. Mr. Wynn, in his 'Argument,' states that there are upwards of 1000 cases of commitment by the House of Commons to be found in their journals since 1547. Breaches of privilege committed in one session may be punished by commitment in another, as in the well-known case of Murray, in 1751-2, who was imprisoned in Newgate for a libel until the end of the session, and on the next meeting of parliament was again ordered to be committed; but he had absconded in the mean while. Contempts of a former parliament may also be punished. The lords may commit for a definite period even beyond the duration of the session or parliament; but a commitment by the commons holds good only until the close of the session.

The House of Lords, in addition to the power of commitment, may impose fines. This privilege is not exercised by the commons, although there is a case in D'Ewes's 'Journal of Queen Elizabeth,' in which Mr. Hall, a member who had incurred their displeasure, by publishing a work "very slanderous and derogatory to the general authority, power, and state of the house, and prejudicial to the validity of its proceedings in making and establishing laws," was ordered to "pay a fine to the queen of five hundred marks." The house at the same time assumed a power not found to have been exercised in other cases. It committed Mr. Hall to the Tower, and ordered that he should remain there for "six months, and until he should make retraction of the book." This punishment was commitment for a time certain without reference to the continuance of the session, and, in the event of a refusal to retract the book, amounted to perpetual imprisonment. A practice still exists which partakes of the nature of a fine. There are certain fees payable by persons committed to the custody of the serjeant-at-arms, and it is usual on discharging them out of custody to attach the condition of the "payment of the fees." These fees have been occasionally remitted under particular circumstances—in one case, on account of the poverty of the prisoner.

Freedom of Speech.—Freedom of speech is one of the privileges claimed by the Speaker on behalf of the commons, but it has long since been confirmed as the right of both houses of parliament by statutes. It was acknowledged by an act in the reign of Henry VIII., by which the proceedings of the stannary court with respect to Richard Strode, a member, who was fined and imprisoned by that court for having proposed a bill to regulate the tinners in Cornwall, were declared illegal, and the repetition of similar encroachments upon the privilege of parliament provided against. The language, however, was thought ambiguous; and it was by limiting its operation to the case of Strode, that a judgment was obtained in the King's Bench against Sir John Elliot, Denzil Hollis, and Valentine, in the reign of Charles I. A true interpretation of the law was subsequently established by resolutions of both houses of parliament, and by a formal reversal of this judgment by the House of Lords. The most solemn recognition of the privilege is contained in the Bill of Rights, which declares "that the freedom of speech and debates and proceedings in parliament ought not to be impeached or questioned in any court or place out of parliament."

The law presumes that everything said in parliament is with the view to the public good and necessary for the conduct of public business; but should the member publish his speech, he is viewed as an author only, and if it contain libellous matter, he will not be protected by the privilege of parliament. In 1795 an information was filed against Lord Abingdon for libel. His lordship had accused his attorney, in parliament, of improper conduct in his profession. He afterwards published his speech in several newspapers at his own expense. His lordship pleaded his own cause, and contended that he had a right to print what he had, by the law of parliament, a right to speak; but Lord Kenyon said "that a member of parliament had certainly a right to publish his speech, but that speech should not be made a vehicle of slander against any individual; if it was, it was a libel." In 1813 a much stronger case of the same kind occurred. Mr. Creevey, a member, had made a charge against an individual in the House of Commons, and incorrect reports of his speech having appeared in several newspapers, Mr. Creevey sent a correct report to an editor, requesting him to publish it in his newspaper. A jury found Mr. Creevey guilty of libel, and the Court of King's Bench refused an application for a new trial; on which occasion Lord Ellenborough said, "a member of that house has spoken what he thought material, and what he was at liberty to speak in his character as a member of that house. So far he is privileged: but he has *not* stopped there; but, unauthorized by the house, has chosen to publish an account of that speech in what he has pleased to call a corrected form, and in that publication has thrown out reflections injurious to the character of an individual."

Freedom from Arrest.—The Speaker's petition prays, on behalf of the commons, "that their persons, *their estates, and servants*, may be free from arrests and all molestations." These words are not more extensive than the privilege as formerly enjoyed, and instances in which it has been enforced may be found in nearly every page of the earlier volumes of the Journals. This privilege has, however, been limited by statutes, the last of which (10 Geo. III. c. 50) states in the preamble that the previous laws were insufficient to obviate the inconveniences arising from the delay of suits by reason of privilege of parliament, and enacts that "any person may at any time commence and prosecute any action or suit, &c., against any peer or lord of parliament, or against any of the knights, citizens, or burgesses for the time being, or against any of their menial or any other servants, or any other person entitled to the privilege of parliament, and no such action shall be impeached, stayed, or delayed by or under colour or pretence of any privilege of parliament." Obedience to any rule of the courts of Queen's Bench, Common Pleas, or Exchequer may be enforced against any person entitled to privilege by distress infinite, in case any person entitled to the benefit of such rule shall choose to proceed in that way.

The persons of members are still free from arrest or imprisonment in civil actions, but their property is as liable to the legal claims of all other persons as that of any private individual. Their servants do not enjoy any privilege or immunity whatever.

The privilege of freedom from arrest has always been subject to the exception of cases of "treason, felony, and surety of the peace;" and though in other criminal charges each house may, if it see fit, prevent the abstraction of a member from his parliamentary duties, the case of Lord Cochrane, in 1815, will show how little protection the House of Commons extends to its members in such cases. Lord Cochrane, having been indicted and convicted for a conspiracy, was committed to the King's Bench Prison. He afterwards escaped, and was arrested by the marshal while sitting on the privy councillor's bench in the House of Commons, on the right hand of the chair, at which time there was no member present, prayers not having been read. The committee of privileges declared that by this proceeding of the marshal of the King's Bench "the privileges of parliament did not appear to have been violated so as to call for the interposition of the house."

Courts of justice have committed privileged persons for contempt, and parliament has refused to protect them. By a standing order of the House of Lords, 8th June, 1757, it was declared "that no peer or lord of parliament hath privilege of peerage or of parliament against being compelled by process of the courts of Westminster-hall to pay obedience to a writ of habeas corpus directed to him;" and in the case of Earl Ferrers, it was decided that an attachment may be granted if a peer refuses obedience to the writ of habeas corpus. There have been two recent cases, that of Mr. Long Wellesley in 1831, and that of Mr. Lechmere Charlton in 1837, in which members committed by the Lord Chancellor for contempt have laid claims to privilege, which were not admitted by the House of Commons.

Peers are always free from arrest; and as regards the commons, their privilege is generally held to exist for 40 days after every prorogation and 40 days before the next appointed meeting.

Jurisdiction of Courts of Law in Matters of Privilege.—In connection with the exercise of privilege, an important point of law arises as to the jurisdiction of courts of justice. It is one of great interest and still greater doubt, and has at various times been the occasion of much dispute and difficulty. Each house of parliament is acknowledged to be the judge of its own privileges. Sir Edward Coke affirms, "whatever matter arises concerning either house of parliament, ought to be examined, discussed, and adjudged in that house to which it relates, and not elsewhere." (4 Inst.) But again, in the disputes in the case of the Aylesbury men, which has been already referred to, the lords communicated to the commons at a conference a resolution, "that neither house of parliament have power by any vote or declaration to create to themselves new privileges not warranted by the known laws and customs of parliament," which was assented to by the commons. (14 Commons' Journals, 555, 560.) The degree of jurisdiction to be exercised by the courts, and the proper mode of dealing with actions involving matters of privilege, it would indeed be difficult to determine, after the inconsistencies which have been shown in practice and the great variety of opinions expressed by learned men.

No more than a concise statement of a few cases will be needed to show the difficulties in which the question is involved.

First, as to the right of courts to inquire into the existence and nature of privileges claimed by either house of parliament. Coke lays it down that "judges ought not to give any opinion of a matter of parliament, because it is not to be decided by the common laws, but *secundum leges et consuetudinem parliamenti;* and so the judges in divers parliaments have confessed." (4 Inst., 15.) When Paty, one of the Aylesbury men, was brought before the Queen's Bench on a writ of habeas corpus, Mr. Justice Powell said, "This court may judge of privilege, but not contrary to the judgment of the House of Commons;" and again, "This court judges of privilege only incidentally; for when an action is brought in this court, it must be given one way or other." (2 Lord Raymond, 1105.) The opinions of other judges to the same effect, expressed at different times, might also be given. The words contained in the Bill of Rights, that the "debates and *proceedings* in parliament ought not to be impeached or questioned in any court or place out of parliament," are generally relied upon in confirmation of this doctrine. If this view were always taken of the question, little difference between parliament and the courts of law would arise. The course would be simple. Whatever action might be brought would be determined in a manner agreeable to the house whose privileges were questioned; and if the lords, in case of appeal, were to abide by the same rule, there would be no dissensions. But as such unanimity of opinion has not always existed, there has been a clashing of jurisdictions, which nothing probably but a statute can prevent for the future.

A judgment was obtained against Sir W. Williams, the Speaker of the House of Commons, in the second year of James II., for having caused a paper entitled 'Dangerfield's Narrative' to be printed by order of the house. This the house declared to be "an illegal judgment," and against the freedom of parliament. A bill was also brought in to reverse the judgment, but it miscarried in three different sessions. (10 Commons' Journals, 177, 205.)

The denial of the exclusive jurisdiction claimed by the commons in 1704, in respect of the law of elections, as stated above, is another important occasion on which the privilege of the commons has clashed with the judgments of the ordinary courts.

The only other case which need be mentioned in this place is that of Stockdale *v.* Hansard. Messrs. Hansard, the printers of the House of Commons, had printed, by order of that house, the Reports of the Inspectors of Prisons, in which a book published by Stockdale was described in a manner which he conceived to be libellous. He brought an action against Messrs. Hansard during a recess, but had a verdict against him upon a plea of justification, as the jury considered the description of the work in question to be accurate. On that occasion Lord Chief Justice Denman, who tried the cause, made a declaration adverse to the privileges of the house, which Messrs. Hansard had set up as part of their defence. In his direction to the jury, his lordship said "that the fact of the House of Commons having directed Messrs. Hansard to publish all their parliamentary reports is no justification for them, or for any bookseller who publishes a parliamentary report containing a libel against any man." In consequence of these proceedings, a committee was appointed, on the meeting of parliament in 1837, to examine precedents and to ascertain the law and practice of parliament in reference to the publication of papers printed by order of the house. The result of these inquiries was the passing of the following resolutions by the house:—

"That the power of publishing such of its reports, votes, and proceedings as it shall deem necessary or conducive to the public interests is an essential incident to the constitutional functions of parliament, more especially of this house as the representative portion of it.

"That by the law and privilege of parliament, this house has the sole and exclusive jurisdiction to determine upon the existence and extent of its privileges; and that the institution or prosecution of any action, suit, or other proceeding, for the purpose of bringing them into discussion or decision before any court or tribunal elsewhere than in parliament, is a high breach of privilege, and renders all parties concerned therein amenable to its just displeasure, and to the punishment consequent thereon.

"That for any court or tribunal to assume to decide upon matters of privilege inconsistent with the determination of either house of parliament is contrary to the law of parliament, and is a breach and contempt of the privileges of parliament."

Notwithstanding these resolutions, Stockdale immediately commenced another action. The Queen's Bench decided against the privileges of the house. A third action was then brought by Stockdale, and not being defended, judgment went by default, and the damages were assessed in the Sheriff's Court.

As yet the jurisdiction of the courts to inquire into the privileges of parliament and to give judgments inconsistent with its determination has alone been touched upon; the next question is as to the mode of dealing with actions involving privilege when brought in the courts. The practice has been extremely various and inconsistent, as a rapid view of it will show. In 1689, immediately after the Revolution, an action had been brought against Topham, the serjeant-at-arms, for executing the orders of the House of Commons in arresting certain persons. Topham pleaded *to the jurisdiction of the court*, but his plea was overruled, and judgment was given against him. The house declared the judgment to be a breach of privilege, and committed Sir F. Pemberton and Sir T. Jones, the judges, to the custody of the serjeant. (10 Commons' Journals, 227.) In speaking of this proceeding, Lord Ellenborough expressed his surprise "that a judge should have been questioned for having given a judgment which no other judge who ever sat in his place could have differed from."

In the case of Ashby and White, so often referred to, the commons declared "that whoever shall presume to commence any action, and all attorneys, solicitors, counsellors, and serjeants-at-law soliciting, prosecuting, or pleading in any case, are guilty of a high breach of the privileges of this house." The effect of this resolution, if obeyed, would be to prevent the courts from coming to any decision at all upon matters of privilege, as an action would be stopped at its commencement; but the principle has not been adhered to.

When Sir Francis Burdett brought actions against the Speaker and the serjeant-at-arms, in 1810, for taking him to the Tower in obedience to the orders of the House of Commons, they were directed to plead, and the attorney-general received instructions to defend them. A committee at the same time reported a resolution "that the bringing these actions for acts done in obedience to the orders of the house is a breach of privilege," but it was not adopted by the house. The actions proceeded in the regular course, and the Court of King's Bench sustained and vindicated the authority of the house.

It has been already said that Stockdale's first action was brought when parliament was not sitting. Having no specific directions therefore from the house, Messrs. Hansard pleaded to the action. On the general issue they proved the orders of the house, which were held to be no protection, but had judgment upon a plea which would have availed them equally if they had printed the report complained of on their own account. Notwithstanding its resolutions, the house, on being acquainted with this action, instead of acting upon them when a second was commenced, reverted to the precedent of 1810, and directed Messrs. Hansard to plead, and the attorney-general to defend them. In this case nothing but the privileges of the House of Commons was relied upon in defence of Messrs. Hansard, and the Court of Queen's Bench unanimously decided against them. Still the House of Commons was reluctant to act upon its own resolutions, and instead of punishing the plaintiff and his legal advisers, "under the special circumstances of the case," it ordered the damages and costs to be paid. The resolutions, however, were not rescinded, and it was then determined that in case of future actions Messrs. Hansard should not plead at all; and that the parties should suffer for their contempt of the resolutions and authority of the house. Another action was brought by the same person and for the same publication. Messrs. Hansard did not plead, the judgment went against them by default, and the damages were assessed by a jury in the Sheriff's Court at 600*l.* The sheriffs of Middlesex levied for that amount, but having been served with copies of the resolutions of the house, they were anxious to delay paying the money to Stockdale as long as possible, in order to avoid its threatened displeasure. At the opening of the session of parliament in 1840 the money was still in their hands. The House of Commons at once entered on the consideration of these proceedings, which had been carried on in spite of its resolutions, and in the first place committed Stockdale to the custody of the serjeant-at-arms. The sheriffs were desired to refund the money, and, on their refusal, were also committed. Mr. Howard, the solicitor of Mr. Stockdale, was suffered to escape with a reprimand. The sheriffs retained possession of the money until an attachment was issued from the Queen's Bench, when they paid it over to Stockdale. Stockdale, while in prison, commenced a fourth action by the same solicitor, and with him was committed to Newgate for the offence; and Messrs. Hansard were again ordered not to plead. Once more judgment was entered up against them, and a writ of inquiry of damages issued.

Mr. France, the under-sheriff, upon whom the execution of this writ devolved, having been served with the resolutions of the commons, expressed by petition his anxiety to pay obedience to them, and sought the protection of the house. He then obtained leave to show cause before the Court of Queen's Bench, on the fourth day of Easter term, why the writ of inquiry should not be executed. Meanwhile the imprisonment of the plaintiff and his attorney did not prevent the prosecution of further actions. Mr. Howard's son, and his clerk, Mr. Pearce, having been concerned in conducting such actions, were committed for the contempt; and Messrs. Hansard, as before, were instructed not to plead. At length, as there appeared to be no probability of these vexatious actions being discontinued, a bill was introduced into the commons, by which proceedings, criminal or civil, against persons for publication of papers printed by order of either house of parliament, are to be stayed by the courts, upon delivery of a certificate and affidavit to the effect that such publication is by order of parliament. This bill passed the commons, and was sent up to the lords, by whom it was returned with certain amendments, to which the commons agreed; and subsequently it received the royal assent.

In executing the Speaker's warrant for taking Mr. Howard into custody, the messengers had remained some time in his house, for which he brought an action of trespass against them. As it was possible that they might have exceeded their authority, and as the right of the house to commit was not directly brought into question, the defendants were, in this case, instructed to plead; although a clause for staying further proceedings in the action was contained in the bill which was pending, at that time, in the House of Lords; by whom, however, it was afterwards omitted. This last action was not proceeded with. This act has removed one ground of contention between parliament and the courts of law, by establishing the right of either house to publish whatever they think necessary, without being questioned or obstructed; but the general question as to the right of the courts to determine matters of privilege is as uncertain as ever. Since Stockdale's actions the commons have acted with some degree of caution in publishing papers that appeared to contain reflections upon individuals, and have desired them to be printed "for the use of the members only;" thus restricting the general circulation of them, which had given rise to their former disputes.

FORMS OF PROCEDURE.

Meeting of Parliament: Preliminary Proceedings.—On the meeting of a new parliament it is the p [illegible] Chancellor, with other peers appointed by commission under the great seal for that purpose, to open the parliament by stating "that his Majesty will, as soon as the members of both houses shall be sworn, declare the causes of his calling this parliament; and it being necessary a Speaker of the House of Commons should be first chosen, that you, gentlemen of the House of Commons, repair to the place where you are to sit, and there proceed to the appointment of some proper person to be your Speaker; and that you present such person whom you shall so choose here, to-morrow (at an hour stated), for his Majesty's royal approbation." The commons then proceed at once to the election of their Speaker. If any debate arises, the clerk at the table acts as Speaker, and standing up, points to the members as they rise. He also puts the question. When the Speaker is chosen, his proposer and seconder conduct him to the chair, where, standing on the upper step, he thanks the house and takes his seat. It is usual for some members to congratulate him when he has taken the chair. As yet he is only Speaker elect, and as such presents himself on the following day in the House of Lords, and acquaints the lords commissioners that the choice of the commons has "fallen upon him," that he feels the difficulties of his high and arduous office, and that, "if it should be his Majesty's pleasure to disapprove of this choice, his Majesty's faithful commons will at once select some other member of their house better qualified to fill the station than himself." It is stated by Hatsell, that there have been only two instances "in which neither this form, of having the royal permission to proceed to the election of a Speaker, nor the other, of the king's approbation of the person elected, have been observed. The first is the election of Sir Harbottle Grimstone, on the 25th of April, 1660, to be Speaker of the Convention Parliament which met at the Restoration; the other is the election of Mr. Powle, 22nd January, 1688-9, in the Convention Parliament at the Revolution." The only instance of the royal approbation being refused is in the case of Sir Edward Seymour, in 1678. Sir John Topham indeed was chosen Speaker in 1450, but his excuse was admitted by the king, and another was chosen by the commons in his place. Sir Edward Seymour, who knew that it had been determined to take advantage of his excuse, purposely avoided making any, so as not to give the king an opportunity of treating him in the same manner as his predecessor had been treated in a former reign.

The office of Speaker is one of great honour and dignity. The person who fills it takes precedence of all commoners, both by custom and by legislative declaration. The act 1 William and Mary, c. 21, enacts that the Lords Commissioners for the Great Seal, "not being peers, shall have and take place next after the peers of this realm, *and the Speaker of the House of Commons.*" He presides over the deliberations of the house, and is required to enforce the observance of all rules for preserving order. The fulfilment of this duty is often a work of great difficulty, and needs a quick and clear judgment, and much firmness; nor can the effect of a courteous manner in restraining the irregularities of individual members be overrated. He is constantly appealed to upon matters of form and order, and his decision is usually deferred to by the house; but where the practice is not clearly ascertained, he states his own views, and leaves the matter to be debated and determined by the house itself. No member can speak without being called upon by the Speaker, and when several rise to speak at the same time, he calls upon the one who was first in his eye. The speeches also are addressed to him, and not to the house. The practice in this respect is different in the House of Lords, where a peer, after being called upon by the Lord Chancellor, or Speaker, addresses himself wholly to their lordships. The practice of the two houses is also different as regards the part taken in debate by their respective Speakers. In the Lords the Lord Chancellor leaves the woolsack, and addresses the house in the same manner as any other peer; but in the Commons the Speaker does not interfere in the debates, otherwise than in maintaining order, except when the house is in committee, and the chair, and is at liberty to address the committee, and to take part in its proceedings.

He puts all questions proposed by members in the proper form, and requires the house to decide upon them. When he has put a question he desires "As many as are of that opinion to say 'aye,'" and "as many as are of the contrary opinion to say 'no.'" In most cases he easily determines which party is the most numerous; but where there is doubt, the sense of the house is taken by a division in a manner which will be presently described. The Speaker declares the numbers after a division, but is not required to record his own vote unless the numbers are even, and then he must vote one way or the other, in order that the house may come to some decision upon the question which has been put from the chair. Even in such cases, however, there are precedents which frequently determine the manner in which his vote is given. It is a difficult and delicate office to give an opinion under such circumstances, especially when it is the duty of the Speaker to withdraw himself as much as possible from the contentions of parties; and, therefore, when the question relates to the stage of a bill—as for the second reading, for instance—it is usual for him to vote with the "ayes," in order to give the house an opportunity of reconsidering the bill upon a future stage.

He issues warrants to the clerk of the crown for new writs for electing members to serve for vacant seats; and even without an order of the house he is enabled, by 10 Geo. III., c. 41, and 15 Geo. III., c. 36, in certain cases, to issue such warrants during a recess. He also issues various other warrants for the execution of the orders of the house; and when the house orders any person to be thanked or reprimanded, the duty of conveying the sense of the house, in appropriate language, devolves upon him; and it is usual for his speeches on such occasions to be printed in the journals.

When the Speaker has been approved, he lays claim on behalf of the commons, "by humble petition to his majesty, to all their ancient and undoubted rights and privileges," which being confirmed, the Speaker with the commons retires from the bar of the House of Lords.

Both houses then proceed to take the oaths required by law. In the commons the Speaker takes them before any other member. Three or four days are usually occupied in this duty before the queen declares to both houses in person or by commission, the causes of calling the parliament. From this time business proceeds regularly. The first thing usually done in both houses is to vote an address in answer to the speech from the throne.

Before any business is undertaken, prayers are read; in the House of Lords by a bishop, and in the Commons by their chaplain. The former usually meet at five o'clock in the afternoon, the latter at four.

Conduct of Business, Divisions, &c.—In the House of Lords business may proceed when three peers are present, but forty members are required to assist in the deliberations of the lower house. If that number be not present at four o'clock in the afternoon, when the house is told by the Speaker before he takes the chair; or if, after the sitting has commenced, notice be taken, or if it appear on a division, that less than that number are present, the Speaker adjourns the house until the next sitting day. It frequently happens, indeed, that business is proceeded in for a considerable length of time when less than 40 members are present, because the fact can only be ascertained by counting; and if no member takes notice of it, the Speaker, on whom the duty of counting devolves, is passive; but when notice is taken, the business is immediately interrupted, for the purpose of counting, and is not resumed unless it be found that 40 members, including the Speaker, are present. The validity of any votes agreed to by less than the required number cannot afterwards be questioned, as a sufficient number is presumed to have been present, unless the contrary appears by counting in the manner described. In both houses all questions are decided by a majority, but in the lords proxies are counted, while in the commons none may vote but those t in the house when the question is put by the Speaker.

When any question arises upon which a difference of opinion is expressed, it becomes necessary to ascertain the numbers on each side. In the lords, the party in favour of the question are called "content," and that opposed to it, "non-content." In the commons these parties are described as the "ayes" and "noes." When the Speaker cannot decide by the voices which party has the majority, or when his decision is disputed, a division takes place. This is effected in the lords by sending the "contents" or "non-contents," as the case may be, to the other side of the bar, and leaving one party in the house. Each party is thus counted separately. The practice in the Commons, until 1836, was to send one party forth into the lobby, the other remaining in the house. Two tellers for each party then counted the numbers, and reported them. In 1836 it was thought advisable to adopt some mode of recording the names of members who voted, and for this purpose several contrivances were proposed. The one adopted and now in operation is this:—There are two lobbies, one at each end of the house; on a division the house is entirely cleared, one party being sent to each of the lobbies. Two clerks are stationed at each of the entrances to the house, holding lists of the members in alphabetical order printed upon large sheets of thick pasteboard, so as to avoid the trouble and delay of turning over pages. While the members are passing into the house again, the clerks place a mark against each of their names, and the tellers count the number. These sheets of pasteboard are sent off to the printer, who prints the marked names in their order; and the division lists are then delivered on the following morning together with the votes and proceedings of the house. This plan has been quite successful; the names are taken down with great accuracy, and very little delay is occasioned by the process.

In committees of the whole house, divisions are taken by the members of each party crossing over to the opposite side of the house, unless five members require that the names shall be noted in the usual manner.

In addition to the power of expressing assent or dissent by a vote, peers may record their opinion and the grounds of it by a "protest," which is entered in the Journals, together with the names of all the peers who concur in it.

When matters of great interest are to be debated in the upper house, the lords are "summoned;" and in the House of Commons an order is occasionally made that the house be called over, and members not attending when their names are called are reported as defaulters, and ordered to attend on another day, when, if they are still absent and no excuse be offered, they are sometimes committed to the custody of the serjeant-at-arms.

The business which occupies nearly the whole attention of both houses (if we except the hearing of appeals by the lords and the trial of controverted elections by the commons) is the passing of bills; and the mode of proceeding with respect to them may be briefly described in the first place.

Bills, Public and Private.

Bills are divided into two classes—such as are of a public nature affecting the general interests of the state, and such as relate only to local or private matters. The former are introduced directly by the motions of members; the latter are brought in upon petitions from the parties interested, after the necessary notices have been given, and all forms required by the standing orders have been complied with.

With few exceptions, public bills may originate in either house, unless they be for granting supplies of any kind, or unless they involve directly or indirectly the levying or appropriation of any tax or fine. The exclusive right of the commons to deal with all legislation of this nature affects very extensively the practice of introducing private bills into either house. Thus, all those which authorise the levying of local tolls or rates are brought in upon petition to the lower house. These compose by far the greater part of all private bills. All measures of local improvement, whether for inclosing lands, lighting, watching, and improving towns, establishing police, or making roads, bridges, railways, canals, or other public works, originate in the commons. On the other hand, many bills of a personal nature are always sent down from the lords, such as bills affecting private estates, for dissolving marriages, and for the naturalization of aliens. As a question of principle it is perhaps unavoidable that so large a proportion of bills must begin in one house, but much obstruction to business and a very unequal division of labour are the results of the practice. Bills affecting the peerage must originate in the lords, and acts of grace are first signed by the king, and then read once only in each of the houses.

Progress of Bills: Public Bills.—Motions for leave to bring in bills of a public nature are not very frequently refused. The more usual time for opposing any measure in its progress is on the second reading, when all the provisions are known, and the general principle and effect of them may be considered. When leave is given to bring in a bill, certain members are ordered to prepare it, being the proposer and seconder of the motion, to whom others are sometimes added. It is then brought in and read a first time, and a day is fixed for the second reading, which generally leaves a sufficient interval for the printing and circulation of the bill.

It has been already said that the second reading is the occasion on which a bill is more particularly canvassed. Its principle is at that time made the subject of discussion, and if it meet with approval, the bill is committed, either to a committee of the whole house or to a select committee, to consider its several provisions in detail. A committee of the whole house is in fact the house itself, in the absence of the Speaker from the chair; but the rule which allows members to speak as often as they think fit, instead of restricting them to a single speech, as at other times, affords great facilities for the careful examination and full discussion of details. The practice of referring bills of an intricate and technical description to select committees has become very prevalent of late years, and might be extended with advantage. Many bills are understood by a few members only, whose observations are listened to with impatience, and thus valuable suggestions are often withheld in the house, which in a committee might be embodied in the bill. By leaving such bills to a select committee, the house is enabled to attend to measures more generally interesting, while other business, of perhaps equal importance, is proceeding at the same time; and it has always the opportunity of revising amendments introduced by the committee.

Before a bill goes into committee there are certain blanks for dates, amount of penalties, &c., which are filled up in this stage. Bills of importance are often recommitted, or in other words, pass twice, and even in some instances three or four times through the committee. When the proceedings in committee are terminated, the bill is reported with the amendments to the house, on which occasion they are agreed to, amended, or disagreed to, as the case may be. If many amendments have been made, it is a common and very useful practice to reprint the bill before the report is taken into consideration. After the report has been agreed to, the bill with the amendments is ordered to be engrossed previously to the third reading. A proposition was made not long since, but without success, for discontinuing the custom of engrossment upon parchment, and for using an examined copy of the printed bill, signed by the clerk of the house, for all the purposes for which the engrossed copy is now required.

The third reading is a stage of great importance, on which the entire measure is reviewed, and the house determines whether, after the amendments that have been made on previous stages, it is fit on the whole to pass and become law. The question, "that this bill do pass," which immediately succeeds the third reading, is usually no more than a form, but there have been occasions on which that question has been opposed, and even negatived. The title of the bill is settled last of all.

An interval of some days usually elapses between each of the principal stages of a bill; but when there is any particular cause for haste, and there is no opposition, these delays are dispensed with, and the bill is allowed to pass through several stages, and occasionally through all, on the same day.

This statement of the progress of bills applies equally to both houses of parliament. There is, however, a slight distinction in the title of a bill while pending in the lords, which is there always "intituled an act," whether it has originated in the lords or has been brought up from the commons.

When the commons have passed a bill, they send it to the lords by one of their own members, who is usually accompanied by others. The lords send down bills by two masters in chancery; unless they relate to the crown or the royal family, in which case they are generally sent by two judges.

Private Bills.—In deliberating upon private bills parliament may be considered as acting judicially. The conflicting interests of private parties, the rights of individuals, and the protection of the public have to be reconciled. Care must be taken, in furthering an apparently useful object, that injustice be not done to individuals, although the public may derive advantage from it. Vigilance and caution should be exercised lest parties professing to have the public interests in view should be establishing, under the protection of a statute, an injurious monopoly. The rights of landowners amongst themselves, and of the poor, must be scrutinised in passing an inclosure bill. Every description of interest is affected by the making of a railway. Lands, houses, parks, and pleasure-grounds are sacrificed to the superior claim of public utility over private rights. The repugnance of some proprietors to permit the line to approach their estates—the eagerness of others to share in the bounty of the company and to receive treble the value of their land—embarrass the decision of parliament as to the real merits of the undertaking, which would be sufficiently difficult without such contentions. If a company receive authority to disturb the rights of persons not interested in their works, it is indispensable that ample security be taken that they are able to complete them so as to attain that public utility which alone justified the powers being entrusted to them. The imprudence of speculators is to be restrained, and unprofitable adventures discountenanced, or directed into channels of usefulness and profit. In short, parliament must be the umpire between all parties, and endeavour to reconcile all interests.

The inquiries that are necessary to be conducted in order to determine upon the merits of private bills are too extensive for the house to undertake, and it has therefore been usual to delegate them to committees. To prevent parties from being taken by surprise, the standing orders require certain notices to be given (to the public by advertisement, and to parties interested by personal service) of the intention to petition parliament. The first thing which is done by the commons on receiving the petition therefore is to inquire whether these notices have been properly given, and if all other forms prescribed by the standing orders have been observed. This inquiry is confided to a committee, who report their determination to the house. It will be necessary here to explain the constitution of this committee. Until very recently it was the practice for the Speaker to prepare "lists" of members who were to form committees on bills relating to particular counties, in such a manner as to combine a fair proportion of members connected with the locality, with the representatives of places removed from any local influence or prejudice. Each of these lists consisted of upwards of a hundred members, any five of whom formed a quorum of the committee. This system was liable to many objections. The number of the committee was too great to allow any responsibility to attach to the members. They were canvassed to vote by each of the opposing parties without having heard the evidence or arguments on either side; and were sometimes induced to crowd into the committee-room and reverse decisions which had been arrived at after long and patient inquiry. These evils led to an experiment which has not long been tried, but which is undoubtedly an improvement upon the former system. All petitions for private bills are referred to one select committee which is appointed at the beginning of each session, and is composed of members whose habits of business and practical acquaintance with this branch of legislation constitute them a tribunal in every respect superior to the old list committees. A uniform construction of the standing orders is more likely to be maintained by one committee than by several; and partiality in any one case is scarcely conceivable in a body which has to decide upon all.

The report which this committee makes to the house is simply whether the standing orders have been complied with or not. If it be favourable, leave is at once given to bring in the bill; if not, it is referred to another committee also appointed at the beginning of the session, and called the "committee on standing orders," whose province it is to inquire into the circumstances of the case, and to report their opinion as to the propriety of enforcing or dispensing with the standing orders. If this committee decide that the parties are not entitled to indulgence, it is still competent for the house to relax its standing orders, as it does not by any means delegate its authority; yet in practice the report is generally regarded as final. Attempts are sometimes made to overrule it, but never, we believe, with success.

When nothing has occurred to obstruct the progress of the bill, it is read a first time: after which seven clear days must elapse before the second reading, the bill being printed and delivered to members in the interval. The principle is now considered by the house, as in the case of public bills; and if the question for reading the bill be carried, it is then committed to a select committee. The constitution of committees on petitions has already been explained. While the list committees were resorted to, both the petition and the bill itself were referred to the same committee, but at present a new mode of appointing committees is in operation. It has been tried for a short time only, and must be tested by further experience before any decided opinion can be given upon its merits. Improvements have already been made since it was first attempted, and practice may suggest others. The lists which have already been described are much reduced in number, and a committee of selection is appointed, to whom members upon the list must signify their intention to attend throughout the whole proceedings before they are permitted to vote. The committee of selection have power also to add to the Speaker's list a certain number of other members not locally interested, in such a proportion as they may think fit. They also direct in each case what number of members (not locally interested), selected and added to the list by them, shall be a quorum of such members.

In committee, the bill, if opposed, undergoes a severe examination. Petitions against it are presented to the house, and referred to the committee, who hear counsel and examine witnesses. The principle of the bill has been by no means established by the second reading, for the preamble is discussed in the committee, and if it be determined by them that it has not been proved, there is an end of the bill. The report is ordered to lie upon the table, and generally no further notice is taken of it. The house indeed seems to delegate its authority more entirely to the committee on a private bill than to any other committee, as it allows them to decide against a principle in favour of which it has already declared an opinion: however, it has sometimes interfered in a manner which will be best explained by briefly detailing the cases. In 1836 the committee on the Durham (South-West) Railway Bill reported, according to the usual form, that the preamble had not been proved to their satisfaction; upon which they were ordered to reassemble for the purpose of reporting specially the preamble, and the evidence and reasons in detail on which they had come to their resolution. The detailed report was accordingly made, but the decision of the committee was not further questioned. In 1837 the bills for making four distinct lines of railway to Brighton had been referred to one committee. An unprecedented contest arose among the promoters of the rival lines; and at length it was apprehended that all the bills would be lost successively by the combination of every three out of the four parties against each of the lines in which the three were not interested, and on which the committee would have to determine separately. This consequence was prevented by an instruction to the committee to "make a special report of the [illegible] particulars of each of the lines, to enable the house to determine which to send back for the purpose of having the landowners heard and the clauses settled."

If the committee allow that the allegations of the preamble have been proved, they proceed to consider the bill clause by clause. But before we quit the subject of the preamble, the modern practice concerning railway bills may be adverted to. There are so many grounds upon which the preamble may fail to be proved, and so many points on which the committee should be informed before a just decision can be given, that in 1836 a rule was established which obliges the committee to report in detail. On receiving the report, the house is now acquainted with the chief particulars from which the expediency of the measure may be collected. The length of the line,—the probable expense of the works, and the sufficiency of the estimates,—the revenue expected from passengers and from agricultural produce or merchandise, with the grounds of the calculation,—the engineering difficulties—the gradients and curves, are all distinctly stated. This system might be extended, with great advantage, to other classes of bills; but it is confined at present to railway bills alone. Much attention has been paid of late to the improvement of the modes of conducting private business, and it is not improbable that detailed reports may form part of the future recommendations of committees, on whom the task of suggesting further improvements may be imposed.

By a standing order, 15th December, 1831, parties complaining of any vote of a committee on a private bill were at liberty to petition against that particular vote, *on entering into* a bond with two sureties for payment of costs. A committee of seven might then be appointed, by ballot, out of 200 members who were chosen at the beginning of the session as "the committee of appeal." This power of objecting to the votes of a committee, however, was very rarely resorted to, and was little more than nominal.

This standing order was repealed in a late general revision of the orders relating to the management of private business, and was not revived. A power of appeal, too, supposing it to have been practically available, is rendered less necessary by the care that is now shown in the appointment and proceedings of the committees whose decisions would have to be impeached; and it must not be forgotten, that in special cases the house itself may interfere, and cause justice to be done to the parties.

It has been said that public bills are occasionally referred to select committees; these, however, must also pass through a committee of the whole house. Private bills are committed to select committees only. Bills for divorces, by a standing order, were committed, like public bills, to committees of the whole house, until the 11th February, 1840, when an order was made for referring them to a select committee of nine members.

It will not be necessary to pursue any furth[illegible] the progress of private bills, which differs only from that already described in respect of bills of a public nature, in the necessity for certain specified intervals between each stage, and for notices in the private bill office.

In the House of Lords, when a private bill is unopposed, it is committed to the permanent chairman of committees, and any other peers may attend; but when a bill is to be opposed, the committee on standing orders inquires whether the standing orders have been complied with, and if they have been complied with, the bill is referred to a committee of five appointed by a committee of five peers, to which latter committee is confided the duty of selecting all committees on opposed bills, according to the circumstances of each case.

The commons have lately adopted a practice similar to that observed by the lords with reference to unopposed bills. The committee of selection refer such bills to "the chairman of the committee of ways and means," and two other members. The *functions of the committee of selection, as already explained,* are also similar to those of the standing committee in the lords. To some readers it may be as well to explain, that the chairman of the committee of ways and means is a member chosen like the Speaker, by a majority of the house, to preside over the proceedings of the committees of supply and ways and means, in the same manner as the Speaker presides over the deliberations of the house. He is chosen for the whole parliament, and it is usual for him to take the chair whenever any important measure proposed by the government is discussed by a committee of the whole house.

In order to ensure a proper acquaintance with the provisions of private bills, some of which are very voluminous, the House of Commons have lately adopted a rule requiring breviates of the bills to be laid before them three days before the second reading, and breviates of the amendments made by the committee, before the house take the report into consideration.

Conferences between the two Houses.—The progress of bills in each house of parliament having been detailed, it still remains to describe the subsequent proceedings in case of difference between them. When a bill has been returned by either house to the other, with amendments which are disagreed to, a conference is desired by the house which disagrees to the amendment, to acquaint the other with the reasons for such disagreement; in order, to use the words of Hatsell, "that after considering those reasons, the house may be induced, either not to insist upon their amendments, or may, in their turn, assign such arguments for having made them, as may prevail upon the other house to agree to them. If the house which amend the bill are not satisfied and convinced by the reasons urged for disagreeing to the amendments, but persevere in insisting upon their amendments, the form is to desire another conference; at which, in their turn, they state their arguments in favour of the amendments, and the reasons why they cannot depart from them; and if after such second conference the other house resolve to insist upon disagreeing to the amendments, they ought then to demand a 'free conference,' at which the arguments on both sides may be more amply and freely discussed. If this measure should prove ineffectual, and if, after several free conferences, neither house can be induced to depart from the point they originally insisted upon, nothing further can be done, and the bill must be lost." An interesting occasion on which all these proceedings were successively adopted occurred not long since; a free conference had not been held since 1702, until a contest arose in 1836 upon amendments made by the lords to a bill for amending the Act for regulating Municipal Corporations.

Whether the conference be desired by the lords or by the commons, the former have the sole right of appointing the time and place of meeting. The house that seeks the conference must clearly express in their message the subject upon which it is desired, and it is not granted as a matter of course. There are many instances to be found in the Journals in which a conference has been refused, but not of late years. The reasons that are to be offered to the other house are prepared by a committee appointed for that purpose, who report them for the approval of the house. These reasons are generally very short, but in some cases arguments have been entered into at considerable length. The conference is conducted by "managers" for both houses, who, on the part of the house desiring the conference, are the members of the committee who have drawn up the reasons, to whom others are occasionally added. Their duty is to read and deliver in the reasons with which they are entrusted to the managers of the other house, who report them to the house which they represent. At a free conference the managers on each side have more discretion vested in them, and may urge whatever arguments they think fit. A debate arose in the last free conference, to which we have just alluded, and the speeches of the managers were taken in short-hand and printed. While the conference is being held, the business of both houses is suspended until the return of the managers.

Amendments made to bills by either house are not the only occasions upon which conferences are demanded. Resolutions of importance, in which the concurrence of the other house is desired, are communicated in this manner. Reports of committees have also been communicated by means of a conference. In 1829 a conference was demanded by the commons to request an explanation of the circumstances under which a bill that had been amended by the lords had received the royal assent without being returned to the commons for their concurrence. The lords expressed their regret at the mistake, and stated that they had themselves been prepared to desire a conference upon the subject, when they received the message from the commons.

Conferences were formerly held in the Painted Chamber, but since the destruction of the houses of parliament by fire in 1831, that apartment has been appropriated to the sittings of the House of Peers, and conferences now meet in one of the lords' committee-rooms.

Royal Assent to Bills.—When a bill has passed both houses, it remains in the House of Lords until the royal assent is given, unless it be a bill of supply, in which case it is returned to the commons. The royal assent may be signified by the king either in person or by commission. Several bills are usually allowed to accumulate before the royal assent is given, and then, if it be during the progress of a session, a commission is generally issued under the great seal for that purpose. Three of the lords commissioners, seated on a form between the throne and the woolsack in the House of Lords, command their usher of the black rod to signify to the commons that their attendance is desired, upon which the commons with the Speaker come to the bar. The titles of the bills being then read, the royal assent to each is signified by the clerk of the parliament in Norman French. For a public bill the form of expression is "*Le roy le veult;*" for a private bill, "*Soit fait come il est desiree;*" upon a petition demanding a right, whether public or private, "*Soit droit fait come il est desiree.*" A bill of supply is carried up and presented by the Speaker, and the assent is pronounced in the words "*Le roy remercie ses bons subjects, accepte leur benevolence, et ainsi le veult.*" In an act of grace which has the royal assent before it is agreed to by the two houses, the clerk says, "*Les prelats, seigniors, et commons, en ce present parliament assemblees, au nom de touts vos autres subjects, remercient tres humblement vostre majestee, et prient a Dieu vous donner en sante bonne vie et longue.*" The form of words used to express a denial of the royal assent was "*Le roy s'avisera.*" The last occasion in which this power was exercised was in 1707, when Queen Anne refused her assent to a bill for settling the militia in Scotland.

The royal assent is rarely given in person, except at the close of a session, when the king attends to prorogue the parliament, and then he signifies his assent to such bills as may have passed since the last commission was issued: but bills for making provision for the honour and dignity of the crown, such as the bills for settling the Civil Lists, have generally been assented to by the king in person immediately after they have passed both houses.

During the Commonwealth the lord protector consented to bills in English, but on the Restoration the old form of words was reverted to, and only one attempt has been made to abolish it. In 1706 the lords passed a bill "for abolishing the use of the French tongue in all proceedings in Parliament and courts of justice" This bill dropped in the House of Commons. An act passed in 1731 for conducting all proceedings in courts of justice in English, but no alteration was made in the old forms used in parliament.

When acts are thus passed, the original engrossment rolls are preserved in the House of Lords, and all public and local and personal acts, and nearly all private acts, are printed by the king's printer, and printed copies are referred to as evidence in courts of law. The original rolls may also be seen, when necessary, and copies taken, on the payment of certain fees.

Committees.—Committees are either "of the whole house" or "select." The former are in fact the house itself, with a chairman instead of the Lord Chancellor or Speaker presiding. There is a more free and unlimited power of debate when the house is in committee, as members may speak any number of times upon the same question, from which they are restrained on other occasions. Select committees are specially appointed, generally for inquiring into particular subjects connected with legislation. It is usual to give them the "power to send for persons, papers, and records;" but in case of any disobedience to their orders, they have no direct means of enforcing compliance, but must report the circumstances to the house, which will immediately interfere.

In case of an equality of voices, the chairman, who is chosen by the committee out of its own members, gives the casting vote. Some misconception appears to have existed as to the precise nature of the chairman's right of voting. In 1836 the House of Commons was informed that the chairman of a select committee had first claimed the privilege to vote as a member of the committee, and afterwards, when the voices were equal, of giving a casting vote as chairman, and that such practice had of late years prevailed in some select committees; when it was declared by the house that, according to the established rules of parliament, the chairman of a select committee can only vote when there is an equality of voices. (91 Commons' Journals, p. 214.) This error was very probably occasioned by the practice of election committees, which was, however, confined to them, and only existed under the provisions of acts of parliament.

In 1837 some regulations were made by the House of Commons for rendering select committees more efficient and responsible. The number of members on a committee was limited to fifteen. Lists of their names are to be affixed in some conspicuous place in the committee-clerk's office and the lobby. Members moving for the committee are to ascertain whether the gentlemen they propose to name will attend. To every question asked of a witness, the name of the member who asks it is prefixed in the minutes of evidence laid before the house; and the names of the members present at each sitting, and, in the event of any division, the question proposed, the name of the proposer, and the votes of each member, are entered on the minutes and reported to the house.

Trial of Election Petitions.—Before the year 1770 controverted elections were tried and determined by the whole House of Commons, as mere party questions, upon which the strength of contending factions might be tested. In 1741 Sir Robert Walpole, after repeated attacks upon his government, was at last driven from office by a vote upon the Chippenham election petition. "Instead of trusting to the merits of their respective causes," said Mr. Grenville, in proposing the measure which has since borne his name, "the principal dependence of both parties is their private interest among us, and it is scandalously notorious that we are as earnestly canvassed to attend in favour of the opposite sides, as if we were wholly self-elective and not bound to act by the principles of justice, but by the discretionary impulse of our own inclinations; nay, it is well known that in every contested election, many members of this house, who are ultimately to judge in a kind of judicial capacity between the competitors, enlist themselves as parties in the contention, and take upon themselves the partial management of the very business upon which they should determine with the strictest impartiality." The principle of the Grenville Act, and of others which were passed at different times since 1770, was to select committees for the trial of election petitions by lot. By the last of these (9 Geo. IV. c. 22), thirty-three names were balloted from the members present at the time, and each of the parties to the election was entitled to strike off eleven names, and thus reduce the number of the committee to eleven. Whichever party attended on the day appointed for a ballot in the greatest force, was likely to have a preponderance in the committee; and the expedient of chance did not therefore operate as a sufficient check to party spirit in the appointment of election committees. Partiality or incompetence was very generally complained of in the decisions of committees appointed in this manner, and in 1839 an act passed establishing a new system,—upon different principles,—increasing the responsibility of individual members, and leaving scarcely anything to the operation of chance.

The following is an outline of the present mode of selecting members for the trial of election petitions. At the beginning of a session the Speaker appoints a general committee of six members, to any or all of whom the house may object, in which case the Speaker is bound to appoint others. If by irreconcilable disagreement of opinion, or by the continued absence of more than two members, the committee, when appointed, should be unable to proceed in the discharge of its duties, or if the house should determine that it shall be dissolved, its functions are to cease. To this general committee all election petitions are referred. The names of all the members of the house are put into an alphabetical list and called over, when certain excuses are allowed to be made; but all who do not then excuse themselves from serving are bound to act as members of election committees when hereafter chosen. This list is taken by the general committee, from which are selected six, eight, ten, or twelve members, who, on signifying their willingness to serve, are formed into "the chairman's panel." The list is then divided into five panels by the general committee, exclusive of the chairmen, the order of which is decided by lot, and a number attached to each in the order in which it is drawn. These panels are to be corrected from time to time by the general committee, according to circumstances. The general committee gives fourteen days' notice in the Votes before it proceeds to appoint a committee for the trial of an election petition. At the expiration of that time it chooses, from the panel standing first in order of service, six members, whose names are read to the parties, who have power to object to any of them on grounds of disqualification specified in the act. When the six members are finally chosen, the chairman's panel appoint one of their own body to act as chairman, who is added accordingly by the general committee. The committee, when thus completed, is sworn, and proceeds to business. If it be reduced to less than six by the non-attendance of members, except it has already sat fourteen days or more, it is dissolved. It may sit with four members only, if it has met for twenty-five days, and with any number, without reference to the time during which it has met, provided all the parties give their consent. All questions are decided by a majority, and in case of an equality of voices, the chairman gives a second or casting vote.

This system has now been in operation for two sessions, and a few elections have been determined during that time; but as yet the opportunity of testing its value has not been afforded by a general election, which alone gives rise to numerous petitions. As yet the general opinion has not been very favourable to the success of the experiment. It will never perhaps be possible to give satisfaction in the trial of controverted elections. Even in common litigation one party always considers himself aggrieved by the judgment of the court, however plain the facts and the law of the case may be. In election law there is little certainty, and the facts which generally have to be elicited may easily bear different constructions, according to the feelings and judgment of either party. Political opponents are in the habit of distrusting each other, and imputing the worst motives to actions; and in politics it cannot be denied there is a certain lax morality which in the minds of many will justify conduct for the sake of a party, which would not be excused were it not for the impulse of *esprit du corps*. All these circumstances cause suspicion and discontent on the trial of elections, which even the high character of the members composing a committee, and the fairness and judgment with which they are selected, cannot altogether remove. No system can be mote fair than the present. The general committee chosen by the Speaker, upon whom is the main responsibility, is such as no party could object to; and the chairman's panel selected by that committee are gentlemen whose character for fairness is unimpeachable. The committee, however, with a view to secure perfect impartiality, have adopted a practice the advantage of which is questionable, viz. that of selecting three members from each party. This practice recognises the distinction of parties, and presents them opposed to each other in the committee-room, leaving the chairman as umpire. It will often happen that the two parties vote against each other, three and three, and the chairman has to give the casting voice. This must lead to observation and distrust, and the decisions, however just, will naturally be imputed to party predilection. The general committee have a very difficult duty to perform, and doubtless if they allowed either party to have the preponderance they would give dissatisfaction; yet it might be tried whether a personal selection, without reference to party, would not secure a better tribunal. But what is most needed is a judicious consolidation of election laws, with clear definitions of the disputed points upon which contradictory decisions are continually given by committees. By many it is thought that the determination of elections should be removed from the House of Commons, and entrusted to some tribunal less involved in political contests. But it is not likely that that body would divest themselves of their privilege and submit to another court; neither is there any ground for anticipating a satisfactory result from such an experiment. The decisions of revising barristers have been quite as inconsistent and contradictory as those of election committees, and from this we would infer that the law itself, rather than the court, requires amendment.

As witnesses giving false evidence before an election committee, being all examined upon oath, are guilty of perjury, it is usual for the house, when acquainted with such misconduct, to instruct the attorney-general to prosecute the parties. The same course has also been pursued with respect to persons proved to have been concerned in bribery.

The determinations of election committees are final, and are immediately carried into effect by the house. If an election be reported void, a new writ is issued; if it be decided that a member has not been duly elected and that another candidate should have been returned, the deputy clerk of the crown is ordered to attend and amend the return, after which the new member is sworn, and takes his seat; and if a petition or the opposition to it be held by the committee to have been frivolous or vexatious, the petitioner or sitting member, as the case may be, is liable to the payment of all the costs.

The last proceeding in parliament which we shall describe is that of

Impeachment.—Impeachment by the commons is a proceeding of great importance, involving the exercise of the highest judicial powers by parliament; and though in modern times it has rarely been resorted to, in former periods of our history it was of frequent occurrence. The earliest instance of impeachment by the commons at the bar of the House of Lords was in the reign of Edward III. (1376). Before that time the lords appear to have tried both peers and commoners for great public offences, but not upon complaints addressed to them by the commons. During the next four reigns, cases of regular impeachment were frequent, but no instances occurred in the reigns of Edward IV., Henry VII., Henry VIII., Edward VI., Queen Mary, or Queen Elizabeth. The institution "had fallen into disuse," says Mr. Hallam, "partly from the loss of that control which the commons had obtained under Richard II. and the Lancastrian kings, and partly from the preference the Tudor princes had given to bills of attainder or of pains and penalties, when they wished to turn the arm of parliament against an obnoxious subject." Prosecutions also in the Star-chamber during that time were perpetually resorted to by the crown for the punishment of state offenders. In the reign of James I. the practice of impeachment was revived, and was used with great energy by the commons, both as an instrument of popular power and for the furtherance of public justice. Between the year 1620, when Sir Giles Montresor and Lord Bacon were impeached, and the Revolution in 1688, there were about 40 cases of impeachment. In the reigns of William III., Anne, and George I., there were 15, and in the reign of George II. only one (that of Lord Lovat, in 1746, for high treason). The last memorable cases are those of Warren Hastings, in 1788, and Lord Melville, in 1805.

An outline of the forms observed in the conduct of impeachments may be briefly given. A member of the House of Commons charges the accused of certain high crimes and misdemeanours, and moves that he be impeached. If the house agrees to it, the member is ordered to go to the lords, and at their bar, in the name of the House of Commons and of all the commons of the United Kingdom, to impeach the accused. A committee is then ordered to draw up articles of impeachment, which are reported to the house, and having been discussed and agreed upon, are engrossed and delivered to the lords. Further articles may be delivered from time to time. In the case of Warren Hastings the articles had been prepared before his impeachment at the bar of the House of Lords. The accused sends answers to each article, which are communicated to the commons by the lords; to these, replications are returned, if necessary. After these preliminaries, the lords appoint a day for the trial. The commons desire the lords to summon the witnesses required to prove their charges, and appoint managers to conduct the proceedings. Westminster Hall has been usually fitted up as the court, which is presided over by the lord high steward. The commons attend with the managers as a committee of the whole house. The accused remains in the custody of the usher of the black rod, to whom he is delivered, if a commoner, by the serjeant-at-arms attending the House of Commons. The managers should confine themselves to charges contained in the articles of impeachment. Mr. Warren Hastings complained of matters having been introduced which had not been originally laid to his charge, and the house resolved that certain words ought not to have been spoken by Mr. Burke. Persons impeached of high treason are entitled, by statute 20 Geo. II., cap. 30, to make their full defence by counsel—a privilege which is also enjoyed by persons charged by the commons with high crimes and misdemeanors.

When the managers have made their charges and adduced evidence in support of them, the accused answers them, and the managers have a right to reply. The lords then proceed to judgment in this manner:—The lord high steward puts to each peer, beginning with the junior baron, the question upon the first article, whether the accused be guilty of the crimes charged therein. The peers in succession rise in their places when the question is put, and standing uncovered, and laying their right hands upon their breast, answer "guilty," or "not guilty," as the case may be, "upon my honour." Each article is proceeded with separately in the same manner, the lord high steward giving his own opinion the last. The numbers are then cast up, and being ascertained, are declared by the lord high steward to the lords, and the accused is acquainted with the result.

Coke's 'Fourth Institute,' cap. 1; 'The Soveraigne Power of Parliaments,' by W. Prynne, 1643; 'Parliamentary Writs,' by W. Prynne, in four parts, 1659–1664; 'Privileges of the Baronage of England when they sit in Parliament,' by John Selden, 12mo., 1642; 'Modus tenendi Parliamentum,' by W. Hakewel, 1660; 'Lex Parliamentaria,' by G. P., Esq., 12mo., 1690; 'Constitution of Parliaments in England, deduced from the time of King Edward the Second,' by Sir John Pettus, 1680; 'Original Institution, Power, and Jurisdiction of Parliaments,' by Sir M. Hale, 1707; republished by Hargrave, with preface, 1776; 'Antient Right of the Commons of England,' by William Petyt, 1680; 'Parliamentary and Political Tracts,' written by Sir Robert Atkins, 2nd edit., 1741; 'History of the High Court of Parliament,' by T. Gurdon, 1731; 'Manner of holding Parliaments in England,' by Henry Elsynge, Cler. Parl., 1768; 'Free Parliaments,' by Roger Acherley, 1731; Blackstone's 'Comm.,' book 1st; D'Ewes's 'Journal;' Lords' Journals; Commons' Journals; 'General Indexes and Calendars to Lords' Journals,' 1509–1819; 'General Indexes to Commons' Journals,' 1547–1837; 'Trial of Henry Lord Viscount Melville,' published by order of the House of Lords, fol., 1806; 'State Trials;' 'Parliamentary History;' Wynn's 'Argument upon the Jurisdiction of the Commons to commit,' 1810; Hatsell's 'Precedents,' new edit., 1818; Hallam's 'Const. Hist. and Middle Ages;' Turner's 'Hist. of the Anglo-Saxons;' Henry's 'Hist. of England,' &c.

THE POST-OFFICE.

CORRESPONDENCE is the offspring of advanced civilization. When the state of society in this country anterior to the seventeenth century is considered, there can be little surprise that we hear nothing of a post-office before that period. Few of the motives to written communication could be said to exist. Each district of the country supplied its own wants. The little *foreign* trade which flourished was conducted between the English buyer and the *foreign* seller in person, at the place of import. Literature and science dwelt only in the convent or the cell. There was little absence from the domestic hearth, excepting that of the fighting man following the service of his lord; but neither the serf nor his master had the power, even if they had the will, to write letters.

In the Anglo-Saxon times, the great body of the people were as much fixed to the soil as the trees that were planted on it. Even towards the close of the *fourteenth* century, when the commons were rising in social importance, it was ordained by the 'Statute of Labourers' that "no servant or labourer, be he man or woman, shall depart at the end of his term out of the hundred where he is dwelling, to serve or dwell elsewhere." Three centuries afterwards, when the serfs of former times had become free men, the same system of coercion was applied to paupers and destitute persons. They were forbidden to seek employment out of their respective parishes; and this prohibition, which was enforced by pains and penalties, continued in full operation for 133 years, when it was somewhat relaxed. It is only within the last seven years that the restraint has been wholly removed, but the disposition which it created in the minds of many of the labouring classes will for some time to come exercise its influence upon their habits.

In the present day, however, the necessity of a frequent and rapid communication by post is an imperious want. England is no longer exclusively an agricultural country. Thousands leave their father's house at an early age, and pass their lives at a distance from their family connexions. A stream of immigration is constantly pouring into England from Ireland and Scotland. In one year, above 100,000 persons have emigrated to the British colonies and to the United States of North America. The influence of the law of settlement being diminished, men of the humblest ranks look round to discover how they shall best advance their interests, and no longer despair because the narrow bounds of their native parish do not afford them employment. The excavators employed in the formation of a railway will talk of going to Belgium or some other part of the Continent when they have completed their present contract; and the agricultural labourer, with his scythe at his back, may be seen stepping on board a steam-boat in the Thames, bound for Yorkshire; the low fare of half-a-crown enabling him, after having worked at the most profitable description of agricultural labour as long as it could be obtained in the southern counties, to proceed to the opposite extremity of England in search of similar employment. Objections may be made to these migrations, but if employment is not to be obtained at home, it is better to go even to some distance, where it is to be had, than to be dependent upon the parish. The occasional migration of labourers was even permitted by the law passed in 1351, called the 'Statute of Labourers.' Those who resided in the upland districts, where the harvest was late, were allowed to leave their hundred and assist in getting in the harvest in the plains, where it was ready for the sickle

In the state of civilization to which we have now attained in this country, we possess many advantages of the highest importance, which are indeed essential to our daily comfort, but which, presenting themselves with unfailing regularity, pass without observation, and almost without our being conscious of enjoying them. Among the principal of these may be reckoned an efficient and well-regulated system for the transmission of letters, not only through every district and into every nook and cranny of the British islands, but also to and from every part of our wide-spread dominions, as well as every other civilized country on the habitable globe.

We cannot, perhaps, more forcibly present to our minds the great value of this institution than by imagining what must be the condition of this country, in all its various relations, if a sudden stop were put to the active operations of our Post-office. What a check would this occasion to profitable commerce! How greatly would it interfere with that proper proportioning of supply to demand which is essential to the comfortable existence of every well-peopled country! What losses would sometimes be occasioned by gluts,—what privation, at other times, by scarcity,—if the channels for information were closed by which the wants of each community are now regularly made known to every other! Nor would it be found the least among the misfortunes which such an accident would bring about, that the anxieties of friendship and affection on account of those from whom we might be separated, could only be relieved by communication, which would be often uncertain, and always at considerable intervals. But it is unnecessary to enlarge upon this topic, since everybody must acknowledge that the destruction of our Post-office system would inflict upon the social body one of the heaviest blows that it is capable of receiving.

In a very early stage of society the rulers of every country would perceive the necessity of employing messengers for the transmission of their commands to every part of their dominions; and as this necessity would be constantly recurring, it would soon be found advantageous—if not indeed indispensable—to organise a system by which the labour of such a service might be diminished, and its details simplified. At first special messengers would probably be sought for as each occasion for employing them arose. The next step would be to appoint professional couriers, and to assign particular stations or *posts* between which each of these couriers should pass, delivering their despatches from one to the other so as to insure certainty and celerity in their transmission. It would not be long before individuals, seeing the benefit accompanying this institution, would be desirous of profiting by it for the transmission of their own correspondence, and would willingly pay something to the sovereign for such a privilege. Posts thus established must be considered as at once marks of civilization and means for extending it. It can only be in an advanced condition of society that the private correspondence of a country would be so increased that the conveyance of letters would come to be a source of revenue to the state. It is sometimes said that the institution of the post existed among the ancient Persians; but the passages in which it is mentioned merely show that a means of rapid communication was established for the purpose of sending the commands of the emperor from one part to another of his extensive dominions. Relays of horses were placed at certain intervals, and the message was thus transmitted from one hand to another, and rapidly conveyed to the most distant parts of the empire. (Herodotus, viii. 98; Xenophon, Cyropædia, viii., c. 6.)

Such arrangements bore small resemblance to the systematic plans in operation at present for the conveyance of intelligence both public and private. Three centuries ago the couriers, or foot messengers, that were employed in Europe for the conveyance of letters from one person of distinction to another, made their way slowly and laboriously over countries thinly populated and almost without roads.

EARLY HISTORY OF THE POST-OFFICE IN ENGLAND.

We will take a brief view of the origin and progress of the means for maintaining epistolary communication in this country. At first, then, the business of the state only demanded correspondence. The king summoned his barons from all quarters of the kingdom by letters or writs, and held frequent communication with his sheriffs, to collect his parliament together, to muster his forces, to preserve his peace, to fill his treasury. The expenses of the establishment of "Nuncii," who had the conveyance of letters, formed a large item in the charges of the royal household. As early as the reign of King John, the payments to Nuncii for the carriage of letters may be found enrolled on the Close and Miss-Rolls, and these payments may be traced in an almost unbroken series through the records of subsequent reigns. Nuncii also formed part of the establishment of the more powerful nobles. In a wardrobe account of the 27th year of Edward I., we find a specimen of the mode in which the payment is entered.* The Nuncius of the time of King John was probably obliged to provide his own horse throughout his journey; whilst, in the reign of Edward II., he was able, and found it more suitable, to hire horses at fixed *posts* or stations. In 1481, Edward IV., during the Scottish war, is stated by Gale to have established at certain posts, 20 miles apart, a change of riders, who handed letters to one another, and by this means expedited them 200 miles in two days: this is exactly the mode of communication which, as Herodotus and Xenophon inform us, was established by Cyrus, the first king of the Persians. It would seem that the posts, at which relays of riders and horses were kept, were wholly private enterprises; but that when their importance became felt and appreciated, the state found it both politic and a source of profit to subject them to its surveillance. Before any substantive evidence appears of the superintendence of the posts by the government, the superscription often met with, of "haste poste haste," on letters written at the close of the fifteenth and beginning of the sixteenth centuries, is sufficient to show that the posts had become a customary channel for transmitting letters in the speediest way.

A statute in 1548 (2 and 3 Edw. VI., c. 3) fixed a penny a-mile as the rate to be chargeable for the hire of post-horses. In 1581, one Thomas Randolph is mentioned by Camden as the chief postmaster of England; and there are reasons for concluding that his duties were to superintend the posts, and had no immediate connexion with letters. The earliest recital of the duties and privileges of a postmaster seems to have been made by James I. The letters patent of Charles I. in 1632 ('Pat.,' 8 Car. I. p. 1., m. 15 d; 'Fœdera,' vol. xix. p. 385) recite that James constituted an office called the office of postmaster of England for foreign parts being out of his dominions. This functionary was to have "the sole taking up, sending, and conveying of all packets and letters concerning his service, or business to be dispatched into forreigne parts, with power to grant moderate salaries;" the office was granted to Mathewe le Quester, and Mathewe le Quester his son: all others were publicly prohibited that they should not directly or indirectly exercise or intrude themselves: the said M. le Quester made and substituted William Frizell and Thomas Witherings his deputies, and his majesty accepted the substitution. The king, "affecting the welfare of his people, and taking into his princely consideration how much it imports his state and this realm that the secrets thereof be not disclosed to forreigne nations, which cannot be prevented if a promiscuous use of transmitting or taking up of forreigne letters and packets should be suffered," forbids all others from exercising that which to the office of such postmaster pertaineth, at their uttermost perils.

In 1635 a proclamation was made, "for settling of the letter office of England and Scotland." It sets forth "that there hath been no certain or constant intercourse between the kingdoms of England and Scotland;" and commands "Thomas Witherings, Esq., his majesty's postmaster of England for foreign parts, to settle a running post or two, to run night and day between Edinburgh and Scotland and the city of London, to go thither and come back in six days." Directions are given for the management of the correspondence between post-towns on the line of road and other towns which are named, and likewise in Ireland. All postmasters are commanded "to have ready in their stables one or two horses:" 2½d. for a single horse and 5d. for two horses per mile were the charges settled for this service. Letters in places lying near the road were to be taken, and bye-posts to and from the high road established with Lincoln, Hull, and other important places. Similar arrangements were directed for the post between London and Dublin through West Chester and Holyhead, and for the post between London and Plymouth through Exeter, &c. Oxford, Bristol, Colchester, and Norwich were to have corresponding advantages as soon as possible. A monopoly was established, with exceptions in favour of common known carriers and particular messengers sent on purpose, most of which have been preserved in all subsequent regulations of the post-office. This is decisive as to the pre-establishment of a comparatively efficient system by private parties, who were apparently too popular to be summarily put down, and therefore for the present the Government satisfied itself by a vague enactment (that could have had but an arbitrary application) against "other messengers," &c. Owing partially perhaps to the rivalry here indicated, but still more to the general confusion attendant on the breaking out of the civil war, the establishment failed, and for a considerable period great difficulty was experienced in the safe and speedy transmission of letters.

In 1640 Witherings, who, by the Act of 1635, had been appointed inland, and was previously foreign, postmaster, was superseded by the Long Parliament for abuses in the execution of his office. One of these abuses was the endeavour, on his part, to stop the private adventurers, by forcibly depriving one of their servants of the letters that he carried, and which was voted to be "against the liberty and freedome of the subject." Witherings' offices were sequestered into the hands of Philip Burlamachy, to be exercised thenceforth under the superintendence of the king's principal secretary of state; and thus was the first step taken as to the making the Post-office authorities responsible. But in 1642 it was resolved by a committee of the House of Commons that such sequestration was "a grievance and illegal, and ought to be taken off," and that Mr. Witherings ought to be restored. As late as 1644 it appears that the postmaster's duties were not connected directly with letters. A parliamentary resolution entered on the Journals of the Commons states that "the Lords and Commons, finding by experience that it is most necessary, for keeping of good intelligence between the parliament and the forces, that post stages should be erected in several parts of the kingdom, and the office of master of the posts and couriers being at present void, ordain that Edmund Prideaux, Esq., a member of the House of Commons, shall be, and is hereby constituted, master of the posts, messengers, and couriers." "He first established a weekly conveyance of letters into all parts of the nation, thereby saving to the public the charge of maintaining postmasters to the amount of 7000*l*. per annum." (Blackstone.) An attempt of the Common Council of London to set up a separate Post-office, in 1649, was checked by a resolution of the House of Commons, which declared "that the office of postmaster is, and ought to be, in the sole power and disposal of parliament." The motive to the change here indicated in the opinion of Parliament since the vote of 1649, is to be found in the preamble to an ordinance passed in 1657, where it is stated, as a recommendation in favour of the institution of government posts, that "they will be the best means to discover and prevent many dangerous and wicked designs against the commonwealth."

In spite, however, of the decision above mentioned, the private carriers flourished; they not only established more frequent posts than the government, but carried letters at cheaper rates.

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* "Et [illegible] nuncio Domini Regis de [illegible] eunti ad [illegible] [illegible] cum litteris Regis, pro [illegible] suis de [illegible]."

Accordingly, in 1652, the private postmasters presented a petition to Parliament begging to be allowed to give "unto the people the same ease in their rates of letters which is by others declared." Every kind of obstacle was now thrown in the way of the obnoxious rivals to Government: Prideaux issued handbills stating that, if letters were sent by "those who style themselves the 'New Undertakers,' their passage will be interrupted." This was immediately answered by the parties concerned, who, after referring to the vote of 1649, stated that they were resolved "by the help of God to continue their management," and they at the same time announced that places not previously supplied would now be included in their arrangements, and that, in addition to the posts they had already established to leave London on Tuesdays and Saturdays, an additional one would thenceforth depart on Thursdays. So that they had three weekly posts, whilst the Government had but one; and, as we learn from a petition they afterwards presented to Parliament, they only charged 3d. where Government charged 6d. Determined, however, to put them down, the Government empowered Prideaux to lower the rates of postage to the "Undertakers'" prices, though it does not appear that equal facilities were also afforded for the speedy transmission of letters by frequent posts. In addition to the motive before stated for making the Post-office a Government monopoly, the amount of net revenue derived from it began to be an object of some importance. The "New Undertakers" were now forcibly overpowered by the seizure of the correspondence in their hands, and after an ineffectual petition to Parliament on the subject of the injustice with which they conceived themselves to have been treated, we hear no more of them. During the Protectorate, the regular establishment was still further improved and consolidated, and became, as a natural consequence, more and more productive.

But the most complete step in the establishment of a Post-office was taken in 1656, when an Act was passed "to settle the postage of England, Scotland, and Ireland." This having been the model of all subsequent measures, induces us to give something more than a passing notice of it. The preamble sets forth "that the erecting of one General Post-office for the speedy conveying and recarrying of letters by post to and from all places within England, Scotland, and Ireland, and into several parts beyond the seas, hath been and is the best means not only to maintain a certain and constant intercourse of trade and commerce between all the said places, to the great benefit of the people of these nations, but also to convey the publique despatches, and to discover and prevent many dangerous and wicked designs which have been and are daily contrived against the peace and welfare of this commonwealth, the intelligence whereof cannot well be communicated but by letter of escript." It also enacted that "there shall be one General Post-office, and one officer stiled the postmaster-generall of England and comptroller of the post-office." This officer was to have the horsing of all "through" posts and persons "riding in post." Prices for letters, both English, Scotch, Irish, and foreign, and for post-horses, were fixed. All other persons were forbidden to "set up or imploy any foot-posts, horse-posts, or pacquet-boats." These arrangements were confirmed in the first year of the Restoration by an Act which was repealed 9 Anne, c. 11. About the same time an Act was passed with the view, as its title quaintly expresses, of "Quieting the Postmaster-general in the execution of his office," by which private carriers were once more forbidden, and all justices of the peace, constables, &c., were empowered to seize all letters so conveyed, and were directed to inform against the offenders.

In the year after the revolution of 1688, the Act for the establishment of a General Post-office in Scotland was passed, though of course the system must have been previously in operation to some extent, most probably under the management of private individuals. This office appears to have been remarkably unproductive in the first few years of its existence; for in 1698 Sir Robert Sinclair received a grant from King William of the whole revenue free, with a pension of 300l. a-year in addition to keep up the establishment. Sir Robert, however, thought the grant disadvantageous even on these terms and gave it up.

The Act of Queen Anne is the next important event in the history of the Post-office. By this Act the former laws for the establishment of separate Post-offices in England and Scotland were repealed, and one general office and officer were created for the whole kingdom. Additional chief letter offices were established at the same time in Edinburgh, Dublin, New York, and the West Indies. In 1720 the cross-posts were improved by Mr. Allen, who farmed them at a certain sum, with the understanding that whatever new profits might be realised by his plans should be his own during his lifetime. It is stated that he was so successful in his schemes as to make an average profit of nearly 12,000l. a-year during 42 years.

In 1732-3 (6th Geo. II.) an attempt was made, remarkably illustrative of the want of a knowledge of the boundaries within which legislation should be confined. It was enacted that bills of exchange were not to be sent with a letter upon the same piece of paper; and still further, that persons were not to write different notes upon the same sheet. A similar law was passed with respect to writs. By the same Act postmasters were empowered to establish penny-posts in any town of the British dominions; ship letters were directed to be brought to the Post-office; and embezzlement of letters, or taking notes or bills out of them, or robbing the mail, were severally made felonious acts. Lastly, the post-boys were rendered punishable by imprisonment and hard labour for neglect or improper conduct.

From 1711 to 1838, upwards of 150 Acts affecting the regulations of the Post-office were passed. In the first year of her present Majesty 99 of these were repealed, either wholly or partially, and the following Acts were passed, by which the whole department of the Post-office was regulated:—For the management of the Post-office, c. 33; the regulation of the duties of postage, c. 34; for regulating the sending and receiving of letters and packets by the post free from the duty of postage, c. 35; for consolidating the laws relative to offences against the Post-office, and explaining certain terms and expressions, c. 36.

A mere enumeration of the titles of all the Acts affecting the Post-office would occupy a considerable space. An account even of these four last-mentioned acts must be dispensed with, and the reader must be referred to the Acts themselves. Their enactments have been abrogated, to a great extent, by the adoption of Mr. Rowland Hill's plan of uniform postage. This measure was carried into effect by an Act passed in 1839 (2 and 3 Vic. cap. 52), which conferred temporary powers on the Lords of the Treasury to do so, and was subsequently confirmed by an Act 3 and 4 Vic. c. 96, passed 10th August, 1840.

Mr. Rowland Hill's Plan.

This plan was at first privately submitted to the Government, and, in 1837, published in a pamphlet under the title of 'Post-office Reform—its Importance and Practicability.' In a short period three editions were issued.

Mr. Hill proposed to effect—1, a great diminution in the rates of postage; 2, increased speed in the delivery of letters; and, 3, more frequent opportunities for their despatch. He proposed that the rate of postage should be uniform, to be charged according to weight, and that the payment should be made in advance. The means of doing so by stamps were not suggested in the first edition of the pamphlet, and Mr. Hill states that this idea originated with Mr. Charles Knight. A uniform rate of a penny was to be charged for every letter not exceeding half an ounce in weight, with an additional penny for each additional ounce. Mr. Hill showed that the actual cost of conveying letters from London to Edinburgh, when divided among the letters actually carried, did not exceed one penny for 36 letters.

The publication of this plan immediately excited a strong public sympathy in its favour, and especially with the commercial classes of the city of London. Mr. Wallace [illegible] for a select committee of the House of Commons to inquire into its merits on the 9th May, 1837; but the motion fell to the ground. On the 30th May, 1837, Lord Ashburton, upon presenting a petition from some of the most eminent merchants, bankers, men of science, and others in the metropolis, to the House of Lords, spoke strongly in favour of the plan. In the December of the same year the government assented to the appointment of a select committee of inquiry. A society of merchants was forthwith formed in the city of London to furnish evidence of the evils of the high rates of postage, and the insufficiency of the Post-office management in answering the wants of the present times. The subject began to excite much interest throughout the country. In the session of 1837 five petitions were presented to the House of Commons in favour of the plan. In 1838 upwards of 320 were presented, of which number 73 emanated from town councils, and 19 from chambers of commerce. After sitting upwards of 63 days, and examining Mr. Rowland Hill and 83 witnesses, besides the officers of the departments of the Post-office and the Excise and Stamp offices, the committee presented a most elaborate Report in favour of the whole plan, confirming by authentic and official data the conclusions which Mr. Hill had formed from very scanty and imperfect materials. The committee summed up a very long Report as follows:—

"The principal points which appear to your committee to have been established in evidence are the following:—

"The exceedingly slow advance, and occasionally retrograde movement, of the Post-office revenue during the period of the last 20 years. The fact of the charge of postage exceeding the cost in a manifold proportion. The fact of postage being evaded most extensively by all classes of society, and of correspondence being suppressed, more especially among the middle and working classes of the people, and this in consequence, as all the witnesses, including many of the Post-office authorities, think, of the excessively high scale of taxation. The fact of very injurious effects resulting from this state of things to the commerce and industry of the country, and to the social habits and moral condition of the people. The fact, so far as conclusions can be drawn from very imperfect data, that whenever on former occasions large reductions in the rates have been made, those reductions have been followed in short periods of time by an extension of correspondence proportionate to the contraction of the rates.

"And as matter of inference from fact, and of opinion,

"That the only remedies for the evils above stated are, a reduction of the rates, and the establishment of additional deliveries, and more frequent despatches of letters.

"That owing to the rapid extension of railroads, there is an urgent and daily increasing necessity for making such changes.

"That any moderate reduction in the rates would occasion loss to the revenue, without in any material degree diminishing the present amount of letters irregularly conveyed, or giving rise to the growth of new correspondence.

"That the principle of a low uniform rate is just in itself; and when combined with pre-payment, and collection by means of a stamp, would be exceedingly convenient, and highly satisfactory to the public."

The appearance of the committee's report seemed to inspire the whole country with confidence in the plan. Petitions in its favour amounting to 2000 were presented to both houses of parliament in the session of 1839. The late postmaster-general, the Duke of Richmond, advised the government to adopt it; and the Chancellor of the Exchequer brought forward a bill to enable the Treasury to carry the plan into effect, which was carried by a majority of 100 in the House of Commons, and passed into law on the 17th August, 1839. In the following month an arrangement was made which secured Mr. Rowland Hill's superintendence of the working out his own measure.

On the 5th of December, 1839, as a preparatory measure to accustom the department to the new practice of charging by weight, the inland rates of postage were reduced to a uniform charge of 4*d.* per half ounce, except those which had previously passed at lower rates, which continued to be charged as before. The London District Post was reduced at the same time from 2*d.* and 3*d.* to 1*d.* On the 10th of January, 1840, the uniform rate of 1*d.* per half ounce came into general operation, the scale of weight for letters advancing from a single rate for each of the first two half ounces, by an increase of 2*d.* per ounce, or for any fraction of an ounce, up to 16 ounces; the postage to be paid on posting the letter, or double postage to be charged. On this day parliamentary franking ceased. The use of stamps, which formed one of the means suggested by Mr. Rowland Hill for facilitating the despatch of letters, was introduced on the 6th of May.

RATES OF POSTAGE.

The first establishment of a rate of postage for carrying letters occurs in 1635. The rates were fixed as follows for single letters:—"Under 80 miles, 2*d.*; between 80 miles and 140 miles, 4*d.*; above 140 miles, 6*d.*; on the borders and in Scotland, 8*d.*; two, three, four, or five letters in one packet, or more, to pay according to the bigness of the said packet."

The rates, both inland and foreign, fixed by the ordinance of the Commonwealth in 1656, are therein fully detailed. Letters above two sheets were charged by weight. In most cases the rates vary but little from those fixed in the 12 Car. I., the principal of which were as follows:—Letters not exceeding one sheet, to or from any place not exceeding 80 miles, 2*d.*; above 80 miles, 3*d.* From London to Berwick, 3*d.*; to Dublin, 6*d.* Letters of two sheets were charged double. By the 9 Anne, c. 11, a penny was added to several of the rates previously established; a letter from London to Edinburgh was charged 6*d.* The additions subsequently made appear in the following table:

A TABLE showing the Scale of Distances according to which the Postage of Great Britain was charged, with the Rates levied for those Distances, from the year 1710 to December 5, 1840.

SCALE OF DISTANCES.	1710.	1765.	1784.	1797.	1801.	1805.	1812.
ENGLAND.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
From any Post-office in England or Wales to any place not exceeding 15 miles from such office .	3	1	2	3	3	4	4
For any distance above 15 miles, and not exceeding 20 miles	3	2	3	4	4	5	5
Above 20 miles, and not exceeding 30 miles .	3	2	3	4	4	5	6
30 . . . . . 50 . .	3	3	4	5*d.* between 30 and 50 miles; 6*d.* between 50 and 100 miles; 7*d.* between 100 and 150 miles; 8*d.* above 150 miles.	5	6	7
50 . . . . . 80 . .	3	3	4		6	7	8
80 . . . . . 120 . .	4	4	5		7	8	9
120 . . . . . 170 . .	4	4	5*d.* under 150 m. 6*d.* above 150 m.		8	9	10
170 . . . . . 230 . .	4	4	6	8	9	10	11
230 . . . . . 300 . .	4	4	6	8	10	11	12
300 . . . . . 400 . .	4	4	6	8	11	12	13
400 . . . . . 500 . .	4	4	6	8	12	13	14
And so on in proportion, the postage increasing progressively 1*d.* for a single letter for every like excess of distance of 100 miles.							

The principle of the rating was to charge according to the distance which the conveyance travelled, until the year 1839, when the direct distance only was charged. A single letter was interpreted to mean a single piece of paper, provided it did not exceed an ounce in weight. A second piece of paper, however small, or any enclosure, constituted a double letter. A single sheet above an ounce was charged with fourfold postage. After a fourfold charge, the additional charges advanced by weight.

In Scotland, letters, when conveyed by mail-coaches only, were subject to an additional halfpenny. Letters passing between Great Britain and Ireland were subject to the rates of postage charged in Great Britain, besides packet rates, and Menai, Conway Bridge, or Milford rates.

The rates in Ireland were lower than for other parts of the United Kingdom.

Until 1827 the officers of the Post-office were authorised to consider as a double letter every single sheet of paper which, in addition to its epistolary contents, comprised an account, bill of lading, receipt, or any similar document; but by the Act 7th and 8th Geo. IV. cap. 21, this grievance (for so it was felt by the trading part of the community) was remedied; and a single sheet of paper, no matter how occupied, was charged only with a single rate of postage.

The select committee of the House of Commons in 1838 and 1839, which investigated Mr. Rowland Hill's plan, reported the following to be the average rates of postage :—

Average Rates, Multiple Letters being included and counted as Single.

	d.		*d.*
Packet and ship letters	23·1562	= nearly	23¼
,, inland general post letters	9·7065	= nearly	3¾
Ditto, ditto, and London 2*d.* and 3*d.* post letters	8·4006	= nearly	8½
Ditto, ditto, ditto, and country 1*d.* post letters	7·6074	= little more than	7½
Inland general-post letters only . .	8·6502	= nearly	8¾
Ditto and London 2*d.* and 3*d.* post letters	7·4688	= nearly	7½
Ditto, ditto, and country 1*d.* post letters	6·7414	= nearly	6¾

Average Rates, Multiple Letters being excluded.

Single inland general-post letters . .	7·7445	= nearly	7¾
Ditto and London 2*d.* and 3*d.* post letters	6·8202	= little more than	6¾
Ditto, ditto, and country 1*d.* post letters	6·2166	= nearly	6¼

Under the present uniform rates of postage all post letters whatever, passing between one part of the United Kingdom and another, the Channel Isles and Isle of Man inclusive, are charged by weight, without reference to the number of pieces of paper, or enclosures, or distance, according to the following scale :—

	Oz.		Oz.	Pre-paid.		Unpaid.	
				s.	*d.*	*s.*	*d.*
Not exceeding	½			0	1	0	2
Exceeding	½	and under	1	0	2	0	4
,,	1	,,	2	0	4	0	8
,,	2	,,	3	0	6	1	0
,,	3	,,	4	0	8	1	4
,,	4	,,	5	0	10	1	8
,,	5	,,	6	1	0	2	0
,,	6	,,	7	1	2	2	4
,,	7	,,	8	1	4	2	8
,,	8	,,	9	1	6	3	0
,,	9	,,	10	1	8	3	4
,,	10	,,	11	1	10	3	8
,,	11	,,	12	2	0	4	0
,,	12	,,	13	2	2	4	4
,,	13	,,	14	2	4	4	8
,,	14	,,	15	2	6	5	0
,,	15	,,	16	2	8	5	4

No letter or packet exceeding 16 ounces can be transmitted by post, except parliamentary papers, addresses to her Majesty, letters and packets received from or addressed to places beyond the limits of the United Kingdom, government despatches, and deeds subject to certain rules.

Under the present rates of postage the average charge on general-post inland letters in the London district, exclusive of Government letters, is about 1½*d.* per letter.

FRANKING.

As early as a post-office was established, certain exemptions from the rates of postage were made. Parliamentary franking existed in 1666. An entry is registered on the Journals of the House of Commons on 19th October, 1666, "That Edward Roberts be sent for in custody of the serjeant-at-arms or his deputy to answer his abuse and breach of privilege in exacting money of the members of this House for post letters." In the paper bill which granted the post-office revenue to Charles II. a clause provided that all the members of the House of Commons should have their letters free, which clause was left out by the Lords, because no similar provision was made for the passing of their letters, but a compromise was made on the assurance that their letters should pass free.

In 1735 the House of Commons prosecuted some investigations into the subject, which appear on the Journals. They declared that the privilege of franking was coeval with the establishment of the Post-office. Again, in 1764 (4 Geo. III.) a committee was appointed "to inquire into the several frauds and abuses in relation to the sending or receiving of letters and parcels free from the duty of postage." Among various abuses proved to exist, it is related that "one man had in the course of five months counterfeited 1200 dozen of franks of members of parliament, and that a regular trade of buying and selling franks had been actually established with several persons in the country." Up to this period, members were simply required to write their names in the corner. Their servants accordingly were in the habit of begging numbers of these franked covers, and making a trade of their sale. The injury thus done to the revenue was most serious. The amount of franked packages at the regular rates of postage amounted about this time to the enormous sum of 170,000*l.* Forgeries also, it appears, were very common, owing to the simplicity of the requisite imitation, and the many facilities afforded for their sale. It was now declared that the entire superscription should be written by the member, and forgery was made punishable with seven years' transportation. About twenty years later, a suggestion of Mr. Palmer's as to remedying the abuses of franking was adopted: it was made imperative that members should write the name of the place where they then were, and the date, in words at full, and that the letter should be posted only as a frank in the Post-office of such place and on the day thereon named. In 1795 the abuses of franking again attracted the attention of the Legislature; franked letters were now only to carry one ounce, and they were only to pass free when posted within 20 miles of the place where the members concerned were on that or the preceding day. No more than 10 also were to be sent or 15 received daily. Soldiers and sailors were allowed by this Act to send letters countersigned by their officers on payment of 1*d.*; and patterns, with covers open at the ends, and containing no writing but the prices, and the name and address of the sender, were to be charged only single postage.

The recent privilege of franking was exercised by spiritual and temporal peers, and representatives of the commons in parliament. All the great officers of state were likewise privileged to send and receive letters by the post free of charge, and for the most part without any limitation in regard either to the number of letters or their weight. Several other official persons were authorised to frank letters, but only on the business of their respective offices. Under certain limitations, all papers printed by order of either house of parliament passed through the Post-office free of charge; and it is well known that the like privilege was and is still extended to the transmission of stamped newspapers.

In 1838 the number of franks which passed annually through the Post-office was estimated at seven millions; and the number reduced to the standard of single letters, amounted to above 30 per cent. on the whole number of letters transmitted by the general post. The average weight of a single chargeable letter was about 3-10ths of an ounce; the average weight of a parliamentary frank about 48-100ths of an ounce; that of an official frank 1·9376 oz., or nearly two ounces; and that of a copy of a public statute 3·1129 oz. The average weight of parliamentary franks was double that of general-post chargeable letters; the official franks eight times heavier than such letters; and the copies of the statutes thirteen times heavier than chargeable letters. Had they been liable to the then existing rates, they would have contributed in the following proportions to the revenue:—

	Number.	Rate per Letter. *d.*	Revenue. *l.*
Parliamentary franks	4,813,448	17·392	248,814
Official franks . .	2,109,010	70·209	616,965
Statutes distributed .	77,542	112·795	36,443
Total . .	7,000,000	....	1,002,222

On the 10th of January, 1840, all franking was entirely abolished. The amount of postage charged on the public departments in the year ending 5th January, 1841, was 118,577*l.* From the 10th of January, 1840, to February 20th in the same year, the following sums were paid by the chief public offices:—Foreign Office, 5851*l.*; War Office, 1526*l.*; Colonial Office, 976*l.*; Post Office, 950*l.*; Ordnance Office, 806*l.*; Adjutant General's Office, 585*l.*; Admiralty, 567*l.*; Tithe Commissioners, 484*l.*; Audit Office, 460*l.*; the Treasury, 425*l.*

STATISTICS OF LETTERS, &c.

No accounts of the number of letters, newspapers, &c. passing through the Post-office were kept until very lately. Founded upon a very careful exami [illegible] of the best data, the numbers were estimated by the Commons' Committee, in 1838, to be as follows:—

Chargeable letters:—

General Post, including foreign letters and reckoning double and triple letters as single . . .	57,000,000
2*d.* and 3*d.* post letters	12,500,000
Country penny-post letters	8,000,000
	77,500,000
Franks . .	7,000,000
Newspapers	44,500,000
	129,000,000

A more detailed estimate, the result of very elaborate inquiry, is appended to the Report of the Commons' Committee, which we subjoin:—

Description of Letters.	Yearly Number of Letters.	Average Rate per Letter. *d.*	Yearly Revenue. *l.*
Packet and ship letters . . .	3,523,572	25·1562	369,340
General Post inland letters above 4*d.*	46,578,800	9·1829	1,782,191
Ditto, not exceeding 4*d.* . .	5,153,200	3·5	75,151
London local post letters . .	11,637,852	2·3666	114,758
Country penny-post letters .	8,030,412	1	33,483
Total	74,923,836	7·6074	2,374,923
Parliamentary franks . . .	4,813,448		
Official franks, for public purposes	2,109,010		
Public statutes	77,542		
Newspapers	44,500,000		
Total of documents transmitted by post . . .	126,423,836		
Unappropriated			
Total revenue from letters, 1837			2,379,564

The effect of the present system of postage on the number of letters in the United Kingdom is shown in the following Table:—*

Comparative Statement of the Number of Letters (including Franks during the existence of the Franking Privilege) delivered in the United Kingdom in one Week of each Calendar Month, beginning with November, 1839, and ending with May 23, 1841:*—

Week ending	England and Wales.				Total Ireland.	Total Scotland.	Gross Total United Kingdom.
	Country Offices.	London, Inland, Foreign, and Ship.	London District Post.	Total England and Wales.			
24 November, 1839 . .	764,938	229,292	258,747	1,252,977	179,931	153,065	1,585,973
22 December „ . .	963,616	279,457	340,693	1,583,766	225,889	199,032	2,008,687
January, 1840 . .	not ascertained.	*					
23 February „ . .	1,658,002	431,298	406,476	2,495,776	349,928	353,933	3,199,637
22 March „ . .	1,607,431	416,887	386,689	2,411,007	321,163	337,326	3,069,496
25 April † „ . .	1,505,609	410,270	390,989	2,306,868	328,074	319,924	2,954,886
24 May „ . .	1,588,809	449,333	418,926	2,457,068	338,407	342,560	3,138,035
21 June „ . .	1,629,123	454,376	441,848	2,525,347	343,761	352,098	3,221,206
19 July „ . .	1,674,410	452,448	400,753	2,527,611	338,495	356,817	3,222,923
23 August „ . .	1,746,257	461,689	343,347	2,551,293	345,831	369,436	3,266,560
20 September „ . .	1,811,213	450,871	340,232	2,602,316	350,318	366,419	3,319,053
25 October „ . .	1,821,711	472,802	387,848	2,682,361	369,297	366,121	3,417,779
22 November „ . .	1,805,325	492,574	357,262	2,655,161	385,672	385,262	3,456,115
20 December „ . .	1,782,579	491,264	405,153	2,678,996	381,306	375,024	3,435,326
24 January, 1841 . .	1,929,661	519,625	467,940	2,917,226	386,555	380,242	3,681,023
21 February ‡ „ . .	2,133,197	547,621	504,147	3,184,965	460,380	444,819	4,090,164
21 March „ . .	1,950,501	531,960	447,766	2,930,227	389,877	401,351	3,721,455
25 April „ . .	1,899,485	511,064	454,601	2,865,150	389,989	389,568	3,644,707
23 May „ . .	1,908,188	546,170	452,864	2,907,222	391,322	400,581	3,699,125

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* These tables, with some of the subsequent statements, are taken from a paper read by Mr. Rowland Hill before the Lo Society. (Journal of Stat. Soc. for July, 1841, vol. iv. part 2.)

† Easter Week.

‡ The increase in this week is owing to the Valentines. In a paper read before the Statistical Society in March, 1840, by Mr. Rowland Hill, he remarks:—"The number of letters on any particular day is influenced very much by circumstances. In London, the average number of General-post l[illegible] is about 30 per cent. greater on a Monday than on any other day of the week. On Christmas-day, 1839, the number of [illegible] about [illegible] per cent., and the number of district-post letters about 60 per cent. On the 10th of Feb- [illegible] the first fell about 40 per cent., and the second about 35 per cent.; while on the 14th February (St. [illegible] the second about 35 per cent.

LONDON GENERAL POST.—Return of the Number of Chargeable Letters which have passed through the London General Post (inwards and outwards) since the first general Reduction of Postage, on the 5th December, 1839, dividing the time (as far as practicable) into periods of four complete weeks each, and distinguishing, as regards each period, the Unpaid, Paid, and Stamped, and Total Number of Letters; also, a similar Return of the estimated Numbers of Letters for the Year immediately preceding the Reduction.

1839.				1840.					1841.				
Four weeks ending	Unpaid.	Paid.	Total.	Four weeks ending	Unpaid.	Paid.	Stamped.	Total.	Four weeks ending	Unpaid.	Paid.	Stamped.	Total.
5 Jan. .	1,299,789	201,127	1,500,916	4 Jan. .	1,596,434	2,506,547	..	4,102,981	2 Jan. .	333,433	1,974,684	2,047,120	,355,237
2 Feb. .	1,326,304	217,071	1,543,375	1 Feb. .	687,137	2,317,127	..	3,004,264	30 Jan. .	370,080	2,204,919	2,108,074	,683,073
2 Mar. .	1,345,705	212,175	1,557,880	29 Feb. .	462,647	2,876,427	..	3,339,074	27 Feb. .	406,173	2,349,958	2,275,321	,031,452
30 Mar. .	1,387,315	217,041	1,604,356	28 Mar. .	386,150	2,986,517	..	3,372,667	27 Mar. .	435,388	2,249,080	2,375,659	,060,127
27 April .	1,429,775	226,541	1,656,316	25 April .	423,930	2,980,970	..	3,404,900	24 April .	445,388	2,191,941	2,329,660	,966,989
25 May .	1,383,053	236,712	1,619,765	23 May .	410,399	2,630,896	419,984	3,461,279	22 May .	484,697	2,274,045	2,476,459	,235,201
22 June .	1,383,706	265,314	1,649,020	20 June .	367,831	2,354,932	942,430	3,665,193	19 June .	485,986	2,340,279	2,516,304	5,342,569
20 July .	1,365,343	339,634	1,704,977	18 July .	337,176	2,288,040	1,188,229	3,813,445					
17 Aug. .	1,317,668	302,745	1,620,413	15 Aug. .	351,334	2,181,296	1,439,234	3,971,864					
14 Sept. .	1,412,277	299,994	1,712,271	12 Sept. .	291,973	2,229,952	1,535,137	4,057,062					
12 Oct. .	1,344,819	298,041	1,642,860	10 Oct. .	308,686	2,201,756	1,671,736	4,182,178					
9 Nov. .	1,307,244	285,587	1,592,831	7 Nov. .	267,743	2,119,578	1,910,581	4,297,902					
7 Dec. .	1,359,439	323,473	1,682,912	5 Dec. .	296,285	2,096,097	1,992,919	4,385,301					

The total number of letters for the week ending 22nd March,* 1840, according to Table, p. 118, was under 3,070,000, and for the corresponding week of 1841 upwards of 3,700,000, being an increase of upwards of 650,000, or somewhat more than 21 per cent. Comparing March, 1839, with March, 1840, the increase was 100 per cent.; and comparing the former period with March, 1841, the increase is 140 per cent.: so that 40 per cent. on the old number, accruing between March, 1839, and March, 1840, may be assumed as the present annual rate of increase. The estimated annual number of letters transmitted by post in the United Kingdom, taking the first week in the Table as an average, was 82,470,596. If the number for the week ended 22nd March, 1841, be taken as an average, the estimated number is 193,515,660 per annum, making an increase of nearly two and a half fold. Mr. Rowland Hill anticipated a three-fold increase in the first year in case the *whole* of his plans were carried into effect. Besides the reduction of postage, he relied upon other causes of increased correspondence, which have only been partially brought into operation, such as greater frequency and despatch in the transmission and delivery of letters. For example, previous to the establishment of day-mails, letters passing through London were detained fourteen hours in the London office, and this class of letters then amounted to about 36,000 per week, whereas the number is now 170,000, being nearly a *five*-fold increase. By adding together the returns in the Table above, for twelve corresponding weeks ending April, 1839, 1840, and 1841, it will be seen that the letters of all kinds passing through the General Post-office (inwards and outwards)† were, in round numbers, 4,800,000 in 1839; 10,100,000 in 1840; and 15,000,000 in 1841. The increase was 102 per cent. in 1840 as compared with 1839; and 49 per cent. in 1841 compared with 1840; and this latter proportion may be assumed as the present annual rate of increase. In the letters posted in London the increase since the reduction of postage is 70 per cent., and of those delivered in London the increase is about 65 per cent.; but on that class which merely passes through London, and which, instead of being detained fourteen hours, are immediately forwarded by the day-mails and by railway, the increased frequency of transmission and greater despatch have caused an increase of about 200 per cent. The real value of the measure is to be tested by the number of letters, which have increased in a proportion equal to all rational expectation. Mr. Hill held out the expectation that the adoption of his plan would occasion a five-fold increase in the number of letters, but he did not fix the time when this point would be attained. If the present rate of increase is maintained, the five-fold increase predicted will be realized in less than five years from the reduction of the rates, or during the year 1844; and it will be recollected that some parts of Mr. Hill's plan are only partially in operation. The illicit transmission of letters and the evasions practised under the old system to avoid postage have entirely ceased. It is impossible to doubt that the domestic, social, moral, and commercial effects of the change have been as extensive as they are beneficial—as productive of public advantage as they have been conducive to individual happiness.

The use of stamps in pre-payment of the postage has, it will be seen, been attended with the most successful results. It is convenient both to the public and to the Post-office, and the number of stamped letters has gradually risen until it exceeds the number of letters paid in coin: this is the case, in respect to the large number of letters passing through the London office, but in the country the reverse probably takes place. When the rate of postage was not effected by pre-payment, only 16 per cent. of the letters were paid, 84 per cent. being unpaid; but in the four weeks ending 22nd January, 1840, the proportion of paid letters was 90 per cent.; the unpaid letters were 10 per cent.; and of the paid letters 40 per cent. were stamped. In November the proportion of unpaid letters was as low as 6 per cent., the paid letters being 94 per cent.; of which 60 per cent. were stamped. In the return for May, 1841, the proportion of unpaid letters had risen to 9 per cent., but this must not be understood as indicating the decline of the habit of paying in advance, for in the London District Post (see Table, p. 126) the proportion of unpaid letters has diminished pretty constantly and gradually. The explanation of the increase alluded to is to be found in the following circumstances:—"Owing to the reduced rates and more prompt conveyance, especially as regards North America and India, a large increase has taken place in the number of foreign and colonial letters inwards; on none of which is there any inducement to pay the postage in advance, and on great part of which such payment is impossible. If it be asked why this increase did not manifest itself earlier, the answer is, first, that, in the earlier part of 1840, the increase was much more than counterbalanced by the rapid diminution in the number of unpaid inland letters; and, secondly, that the reduced rates on the inward foreign and colonial letters could not be in full operation until time had been allowed for a passage to and from the distant colonies and remote foreign countries."

REVENUE.

The statistics of the Post-[illegible] are far from [illegible]ple In the early part of the establishment, and before 1716, only a few scattered accounts can be collected. When Prideaux was postmaster in [illegible], the gross revenue is supposed not to have exceeded 5000*l.*, but in a few years, by judicious arrangements he saved the entire amount of the previous loss in the management of the establishment, which amounted to 6000*l.* or 7000*l.* a year. In 1653 the annual revenue was farmed for 10,000*l.*, and in 1659 for 14,000*l.* ('Journal of the Commons.') In 1663 the revenue was farmed to Daniel O'Neale, Esq., for 21,500*l.* per annum, and the amount settled upon the Duke of York, the king's brother. So anxious were the parties concerned to keep this revenue from the public, that express provision was made against any portion of the receipts being paid into the Exchequer. In 1674 the revenue was farmed at 43,000*l.* per annum, and two years after Sir William Petty calculated that since 1635 the number of letters had increased in the proportion of 20 to 1. In 1685 the net revenue had increased to the estimated sum of 65,000*l.* per annum; so that if 22 years before it had been an object to keep it from the use of the public, it was now more so than ever. The Duke of York was now James the Second, and he lost no time in securing it to himself, by obtaining an Act in the first year of his reign, with the additional proviso, that the revenue should hereafter be to him, his heirs, and successors, one entire and indefeasible estate in fee simple, and therefore that its revenues were not to be accounted for to Parliament. In 1688 the revolution took place, and the Parliament, by resuming the grant, nominally did away with it, yet the king still received the revenue, and left the country without any authentic knowledge of its amount.

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* This month is taken as being freer from disturbing causes than

† More than one-third of the whole number of letters for the United Kingdom pass through the London office.

After the Revolution the revenue appears to have been still settled on the king, but was declared to be inalienable beyond his life. Seven hundred pounds weekly were ordered to be paid into the Exchequer towards the supplies for the war from the 1st of June, 1711, until the 1st of June, 1743, from the anticipated increase of the post-office revenue; and a third of the remainder, if there should still be a surplus, was placed at the disposal of parliament. Dr. D'Avenant, in his 'New Dialogues,' makes the average net revenue for the years 1707, 1708, and 1709, to be 56,664*l.*, which, deducted from the gross receipts, as stated by the Act just mentioned, at 111,461*l.*, leaves 44,796*l.* for the cost of management, or nearly 100*l.* per cent. In Act 1 Geo. I., 1715, it is declared that the entire revenue, with the exceptions before mentioned, "shall be for the support of his Majesty's household, and of the honour and dignity of his crown." In 1717, the weekly payments of 700*l.* were made perpetual. In the following year, the net revenue, according to the Commissioners of the Equivalent, was 62,050*l.* for England, and 2000*l.* for Scotland.

In 1724 the regular accounts of the net revenue commence; in that year it was 96,339*l.* From 1716 to 1733 the average yearly net revenue was 97,540*l.*, founded upon "a certain account, and not an estimate." ('Commons' Journals,' April 16, 1735.) Upon the demise of Geo. I. the revenue was settled, as before, upon the successor to the throne. The claims of the king to the revenues of the Post-office were relinquished when the Civil List was settled on the accession of Geo. III. There is still a sum of 10,120*l.* charged upon the revenue of the Post-office, namely, 3812*l.* to the Duke of Marlborough; 3407*l.* to the Duke of Grafton; and 2900*l.* to the heirs of the Duke of Schomberg.

The utility of the Post-office, even as a source of revenue, must not be appreciated solely by the amount of money which it yields directly to the state, since it must be considered also as auxiliary to other branches of public income. An institution by which the facility of frequent, punctual, and quick communication is secured to the country, has higher claims to consideration than as merely a financial object; it is essential to the purposes of government, may be made to subserve all the ends of national policy, and is necessary to the daily comfort and convenience of almost every individual in the kingdom. It has been justly remarked that, "in a prosperous state of the country, the productiveness of this branch of revenue, in a financial calculation, will be measured by the proportion in which, under judicious management, the institution is made to contribute to the interests, the convenience, and the habitual indulgence of the community."

In the year 1793, at the breaking out of the war consequent upon the French Revolution, the Post-office produced 368,970*l.* to the Exchequer; in 1801, the year of the Peace of Amiens, the sum realised from that source was more than doubled, being 843,976*l.*; and in 1814, the year of the Treaty of Paris, 1,532,153*l.* was the net amount of revenue arising from the postage of letters. After that time the income did not increase. It should seem that at one period government thought the continual increase of the net revenue was owing to the continual increase of the rates of postage, rather than, as was most probably the truth, in spite of them; so it went on levying additional charges every few years, till the object for which they were levied was defeated.

In the Postage Reports of 1838 (Vol. ii., App., p. 176; vol. i., p. 511) are accounts showing the gross receipt, charge of management, net receipt, and rate per cent. of collection in Great Britain from 1758 to 1837, and in Scotland and Ireland from 1800 to 1837. The accounts for a few years will serve to show its progress:—

GREAT BRITAIN.

Years ended 5 April.	Gross Receipt.	Charges of Management.	Net Receipt (returns deducted).	Rate per Cent. of Collection.		
	L.	*L.*	*L.*	*L.*	*s.*	*d.*
1758	222,075	148,345	73,730	66	15	11
1769	305,058	140,298	164,760	45	19	
1779	402,918	263,670	139,248	65	8	
1786	506,500	220,525	285,975	43	10	
1799	1,012,731	324,787	657,388	32	1	
1816	2,193,741	594,045	1,526,527	27	1	
1837	2,206,730	609,220	1,511,026	27	12	

SCOTLAND.

Years.	Gross Receipt.			Charges of Collection.		Net Income.			Rate per Cent. for Collection.
	L.	*s.*	*d.*	*L.*	*d.*	*L.*	*s.*	*d.*	*L.*
1800	100,651	14	4	16,896	0	83,755	6	4	16¼
1837	220,758	13	10	59,945	1	160,813	6	9	27

IRELAND.

			Returns deducted.	
	L.	*L.*	*L.*	*L.*
1800	84,040	59,216	24,824	70
1837	235,070	95,548	134,809	37

The Select Committee on Postage in 1838 instituted the following comparison between the Post-office revenue of the six years ending 5th January, 1838, and that of six years ending 5th January, 1821.

See Appendix to Report I. p. 509.	GROSS REVENUE, Excluding repayments.		NET REVENUE, After deducting cost of Management.	
	1815 to 1820 inclusive.	1832 to 1837 inclusive.	1815 to 1820 inclusive.	1832 to 1837 inclusive.
	L.	*L.*	*L.*	*L.*
	2,273,843	2,175,292	1,508,295	1,531,828
	2,323,835	2,190,161	1,519,196	1,558,425
	2,186,634	2,209,439	1,537,505	1,513,828
	2,099,225	2,243,294	1,438,871	1,564,456
	2,151,213	2,350,603	1,467,532	1,645,835
	2,108,833	2,339,758	1,529,640	1,659,479
Totals of the six years	13,143,583	13,508,547	9,179,046	9,467,077
Average of the six years	2,190,597	2,251,424	1,529,840	1,577,846
Increase at the end of seventeen years	60,827	..	48,006	..
Annual average increase	3,578	..	2,823	..

It thus appears that on an average gross revenue of 2,190,597*l.* there had been in seventeen years a positive increase of 60,827*l.*, averaging only 3578*l.* yearly, or little more than 1½ per thousand, though the advance had been rapid in population, and still more so in wealth, industry, and trade.

The following is an Account showing the Gross and Net Post-Office Revenue, and the Cost of Management, for each of the Years ending 5th January, 1839, 1840, and 1841, distinguishing the Revenue of Great Britain from that of Ireland.

	GREAT BRITAIN.			IRELAND.			UNITED KINGDOM.		
Year ending 5 Jan.	Gross Revenue. *a*	Cost of Management. *c*	Net Revenue.	Gross Revenue.	Cost of Management.	Net Revenue.	Gross Revenue.	Cost of Management.	Net Revenue.
	L.	*L.*	*L.*	*L.*	*L.*	*L.*	*L.*	*L.*	*L.*
1839	2,116,798	585,459	1,531,339	229,480	101,310	128,169	2,346,278	686,768	1,659,509
1840	2,162,914	647,257	1,515,657	227,848	109,472	118,106	2,390,763 *g*	756,999	1,633,764
1841	1,243,447 *b*	741,849 27,000 *d* 18,000 *e*	456,598	124,156 *f*	116,827	7,329	1,359,604 *f*	858,677 27,000 *d* 18,000 *e*	463,927

a Namely, as the gross receipts after deducting the Returns for "Refused Letters," &c. *b* This includes the receipts by the Stamp Office for postage stamps in Ireland as well as in Great Britain; the amount for Ireland was 15,029*l.* 5*s.* 5*d.* *c* Cost of Management. These sums include the charges other than those of management. *d* Advance to Ireland. *e* Advance to the Money-order Office in London. *f* This sum includes 27,000*l.* received from England, and is included in charges other than management for Great Britain, but it does not include the proceeds of postage stamps sold by the Stamp-office in Ireland, which amount to 15,029*l.* 5*s.* 5*d.* *g* This includes one month of the Fourpenny rate.

In the above account we have the last year in which the revenue was totally unaffected by the reduction of postage, namely, 1838. The fourpenny uniform rate came into operation on the 5th of December, 1839; and on the 5th of January, 1840, the penny rate was adopted. It will be perceived that in the first year's trial the gross revenue fell in round numbers from about 2,350,000*l.* to 1,350,000*l.* The deficit, amounting to 1,000,000*l.*, is 74 per cent. on the gross revenue for 1840; but at the rate of increase of letters at present going on, which is 21 per cent. per annum (comparing March 1841 with March 1840), the *gross* revenue will be restored to its former amount by the end of 1844. The *net* revenue (for in spite of the enormous reduction of postage there is a surplus after paying every expense of the Post-office establishment) realised something under 500,000*l.* in 1840, having fallen from upwards of 1,600,000*l.*, the net produce for 1839; the loss to the State being nearly 1,200,000*l.*, or 75 per cent. Mr. Rowland Hill says:—"An opinion has indeed been expressed that the diminution is in effect yet greater; inasmuch as the government is paying for the transmission of its letters probably as much as 100,000*l.* per annum. As a set-off, however, against this, it is to be observed—first, that under the old system the government payments to the Post-office amounted to about 60,000*l.* per annum; and secondly, that, in the statement made above, the remaining 40,000*l.* is within a small sum allowed for; so that the real deduction is, as I have said, about 1,200,000*l.* out of 1,600,000*l.*, or three-fourths."*

COST OF MANAGEMENT.

The Finance Reports show that about four-fifths of the charges on the collection of the Post-office revenue consisted of the cost of distributing letters in the United Kingdom. Transit costs two-fifths, and the establishment two-fifths. The maintenance of the post between this country and the colonies and foreign countries, the inland post in certain colonies, and other charges, made up the remaining fifth. These accounts are not altogether complete, because the expense of those packets controlled by the Admiralty is included in the Navy Estimates, and cannot be separated.

The principal items of expenditure in 1839 were as follows:

Salaries and Allowances.

	£.
Postmaster-general, officers, and clerks in London, Edinburgh, and Dublin offices, and wages and allowances to letter-carriers, messengers, &c. .	98,485
Deputy-postmasters and agents in Great Britain, Ireland, and the colonies	124,403
Wages to officers and letter-carriers in the Twopenny Post-office	45,574
Special services and travelling charges . .	11,106

Conveyances of Mails, Transit Charges, and Payment for Ship Letters.

Riding-work and expenses by the Deputy-post-[illegible] in Great Britain and Ireland . .	102,619
Carried forward . . .	382,187

Brought forward . . .	£.382,187
Mileage to mail-coaches, wages to mail-guards, and other mail-coach expenses	107,122
Tolls paid on mail-coaches	33,863
Riding-work and conveyance of mails in Canada, Nova Scotia, and Jamaica	17,081
Riding-work of the Twopenny post-office . .	5,198
Transit postage through foreign countries . .	11,718
Ship-letter payments	10,649
Packet service expenses, including port-dues .	62,506
Tradesmen's bills, building and repairs . .	11,326
Rent of offices, tithes, and taxes . . .	4,143
Law charges	9,417
Stationery, printing, advertising, and postage	3,717
Superannuation allowances, and allowances for offices and fees abolished . . .	20,538
Other payments	1,787
	681,259

	£.	
Parliamentary grants	9,932	
Menai Bridge, Conway Bridge, and Milford Road	7,440	
		17,372
		£.698,632

The cost of management has increased from about 750,000*l.* in 1839, to about 850,000*l.* in 1840; and in 1839 was greater than in 1838 by 70,000*l.* The most important item in the increase is in the transit of the mails, the cost of which, for Great Britain alone, was greater in 1839 by about 34,000*l.* than in 1838; and has again advanced by about 33,000*l.* in 1840. The payment for railway conveyance has increased in that period from about 10,000*l.* to 51,000*l.**; while the expense of conveyance by mail-coaches, instead of diminishing as the railway charge increased, actually increased with it. Mr. Rowland Hill says, "The explanation of this apparent anomaly is to be found partly in the establishment of the day-mails, but chiefly in the fact that the opening of the railways, by diminishing competition on parallel lines, has produced an augmentation in the charges for mail conveyance, amounting in some instances even to double the previous cost."

The increase in the transit postage paid to foreign countries (about 13,000*l.*) has no relation to Penny Postage, and the charge for conveying the letters of the office itself (about 10,000*l.*) is a mere matter of account, and no real increase of expense. Deducting, therefore, these two sums, together with the 33,000*l.* mentioned above, we have a remainder of 44,000*l.* which is probably about the amount of increased expenditure fairly chargeable on Penny Postage. This increased expenditure is about 6 per cent. on the previous amount. Of the whole increase of 70,000*l.* in the expense of transmitting the mails, no applicable part is referable to the reduced rate of postage; though of course so far as the increase in the number of letters is concerned, the new day-mails, however few in number, must have their just credit assigned them. The whole question has clearly no further connexion with the subject of Penny Postage than as it tends to explain that diminution in the net revenue for which, at the first view, Penny Postage appears responsible. Mr. Rowland Hill further remarks :—"Another fact which partly explains the non-increase of the Post-office revenue is, that the number of letters which, from not being paid in advance, are subject to double postage, has been gradually diminishing ever since the period of the great reduction. In the outset, the proportion of such letters was about 20 per cent.; the present proportion is probably about 5 per cent.; showing, therefore, a diminution of about 15 per cent. As this diminution would require, to counterbalance it, an increase of 15 per cent. in the number of letters (an increase, be it remarked, of at least 30 per cent. on the old number), it manifestly forms an important item in the account. It should also be remarked that while this change, in combination with the increased expenditure referred to above, fully accounts for the non-increase in the net revenue, at the same time, seeing that this source of diminution is nearly exhausted, it can produce no serious effect on the revenue of future years."

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* Mr. Rowland Hill's Paper.

* The Post-office pays 57,000*l.* per an[illegible] to the London and Birmingham and Grand Junction Railways

THE GENERAL (LONDON) POST-OFFICE.

The General Post-office in London, if viewed in relation with the system of which it is the focus and centre, is one of the most interesting establishments in the metropolis. That system, directed and conducted within those extensive ranges of apartments and spacious offices, is so complete in its organization, that it maintains not only the means of communication with every part of the habitable globe, but also, when called upon, with any individual in any part of it, and that with a rapidity and certainty truly admirable.

The business of the London Post-office has grown up from very small beginnings. At first a house of moderate size was found to contain sufficient accommodation for carrying on all the business. As the business increased, additions were from time to time made to the building, and adjoining houses were adapted and occupied; but at length these expedients would no longer avail. The establishment outgrew every possibility of sufficiently enlarging the premises; and it became absolutely necessary to exchange the confined and incommodious apartments which had long been occupied in Lombard Street, for a building which, being expressly erected for the purpose, should afford conveniences and facilities unattainable in the former office. Accordingly, in 1815 an Act of Parliament was passed, authorizing certain commissioners to make choice of a convenient site, and to grant compensation to the parties whom it would be necessary to remove, in order to make room for the new building. A very considerable time was expended in this preliminary business of clearing and preparing the ground, so that the first stone was not laid until May, 1824; and it was only on the 23rd of September, 1829, full 14 years after the passing of the Act of Parliament just mentioned, that the new building was completed and opened for the transaction of business. The situation chosen is exceedingly convenient, being nearly in the heart of the metropolis. The building stands at the junction of St. Martin's-le-Grand with Newgate Street, and very near to St. Paul's cathedral.

The great value of the ground and buildings in this populous part of the city has occasioned the area upon which the New Post-office is built to be of very limited extent. The street in which the principal part is placed, is tolerably wide; but the sides to the north and south, and the back front in Foster Lane, are all closely beset with houses.

The building is about 389 feet long, 130 feet wide, and 64 feet high; it is built externally of Portland stone, and, with the exception of the principal front, is entirely plain, and without any attempt at architectural display. The entrances to the building are through a central portico in the west or principal side, and by a corresponding door-way in the east front in Foster Lane. The space between these two points is occupied by the grand public hall, which is 80 feet long, by about 60 feet wide, divided into a centre and two aisles, by two ranges of six columns: these columns, which have corresponding pilasters, are of the Ionic order, constructed of Portland stone, and stand upon pedestals of granite. The centre of the hall is so much higher than the side aisles as to admit of the insertion of windows, by which it is principally lighted.

Entering from the principal front, the offices on the right hand are appropriated to the Receiver-general's, the Accountant-general's, and the Secretary's apartments, the Money-order offices, and the London District (late Twopenny-post) department. On the opposite, or northern side, are the Inland, the Ship-letter, and the Foreign and Newspaper offices. At the eastern, or Foster Lane end of this aisle, is a staircase leading to the Letter-bill, Dead, Mis-sent, and Returned Letter offices. In the eastern front, north of the centre, is a vestibule where the letter-bags are received, and whence they are despatched from and to the mails. The Inland office communicates with this vestibule, and is 88 feet long, 56 feet wide, and 28 feet high. The Letter Carriers' office, which adjoins, is 103 feet long, 35 wide, and 33 high. The letters to and from the West Indies, and the continent of North America, have an office expressly appropriated to them, which is likewise on this side of the building. The Comptroller's and Mail-coach offices are also in this quarter.

It might occasion some confusion if the communication between the offices in the northern and southern divisions of the building were carried on through the public hall. This disadvantage is obviated by means of a tunnel, which runs under the hall, in which the letters are conveyed between the departments by the aid of ingeniously contrived machinery.

The basement is vaulted, and consequently fire-proof. It contains the Armoury and Mail-guards' room, the servants' offices, and also an apparatus for warming the building by means of heated air, a patent gas-meter, and a governor for regulating the supply of gas to between 700 and 800 Argand burners distributed through the offices and passages.

The Board-room, which is 37 feet long and 24 feet broad, the secretary's rooms and his clerks' offices, are all on the first floor, and communicate by long passages with the solicitor's offices, and some others of minor importance. The second and third stories are occupied by sleeping apartments for the clerks of the foreign-letter office, who are obliged to be constantly upon the spot to receive the foreign mails, which arrive at all hours.

The London Post-office establishment comprises three principal departments, the Inland office, the Foreign office, and the London District (formerly Twopenny-post) office. In connexion with the Inland office is the Ship-letter office, for receiving and despatching letters for the colonies and foreign parts by private trading vessels, the letters so conveyed being subjected to a less rate of postage than letters transmitted by packets in the pay of Government. Letters passing to and from the colonies come, likewise, within the management of the Inland office, in London; being received in the first instance at an out-port, generally Falmouth, whence they are forwarded by the local postmasters, in the same manner as inland letters.

The routine business of the Inland office is necessarily divided among several departments. The principal of these, besides the Ship-letter office, are the Bye-letter, the Dead-letter, the Returned-letter, the Letter-bill, the Accountant-general's, and the Receiver-general's offices: the last of these officers acts as a check upon the Postmaster-general, and consequently the appointment of the Receiver-general rests not with the Postmaster-general, but with the Lords of the Treasury. The Receiver-general holds his office by patent.

The head of the Post-office is styled the Postmaster-general, under whose authority are placed all the Post-offices in the United Kingdom and the colonies. The office was jointly held by two persons until the last few years. It is considered a political one, and the holder relinquishes it with a change of ministry. The Commissioners of Post-office Inquiry (4th Re-post) recommended that the office should be exercised by three permanent commissioners; and a bill passed the Commons to give effect to the recommendation, but was thrown out by the Lords. When the last return of the force of the establishment was made, in 1835, the number of persons employed in the London office was 1337, of which 281 were general-post letter-carriers, 464 twopenny-post letter-carriers, and 220 mail-guards. The number of officers in the ship-letter office was 8; dead-letter office, 18; foreign office, 16; inland office, 60; twopenny post-office, 54. In 1831 and 1832 the chief offices of London, Dublin, and Edinburgh were re-modelled by the Duke of Richmond, then Postmaster-general. The separate office of Postmaster-general for Ireland was abolished: a secretary at Dublin and at Edinburgh is chief executive officer for the respective countries.

OPERATIONS CONNECTED WITH THE DESPATCH OF LETTERS.

The machinery in daily operation in London for affording the means of communication with other parts of the United Kingdom, could only perform its functions by great energy and activity, and the most admirable division of labour. On a Saturday, when the number considerably exceeds the average of other days, there are not far short of 100,000 letters and as many newspapers despatched, and nearly the whole of them are received at the General Post-office after five o'clock. They are collected from about 270 receiving-houses, situated within a distance of three miles, and from above 200 others beyond that distance, but within a circle of 12 miles of the General Post-office. The letters posted in the outer circle are brought in on horseback and in mail-gigs, and those from the inner circle by mail-carts, or by the letter-carriers, nearly 300 in number, who go with a bell through their respective districts and collect the letters which were too late for the receiving-houses, and afterwards hurry off with them to the General Post-office. There are several branch offices, centrically situated in different parts of the metropolis, which do not close until six, and the letters posted there do not reach the principal office until about twenty minutes past six. The boxes at the central office close also at six, but a very large number of letters are received from that hour until seven, on payment of 1*d.*; and a small number from that time until half-past seven for the fee of 6*d.* Thus the great exertions for effecting the despatch of the mails are crowded into the two or three preceding hours, during which the Inland office is a scene of extraordinary bustle and activity. The appearance of the large hall through which the public pass is lively and animated beyond description; and those who cannot obtain a sight of that which is passing within the interior, will be interested by the scene which is presented without, especially at a few minutes before six, when files of newsvenders' men and boys are incessantly arriving with their sacks, and the letter-boxes are still more numerously thronged: the moment of closing the letter-boxes and newspaper window (except on payment of a fee) is one of the most bustling scenes of London.

Each of the 100,000 letters is, in the first instance, placed with the address uppermost, and is then stamped by hand at the rate of 200 per minute. When the letters are stamped, they are taken away to be assorted into about twenty divisions, on as many tables, corresponding with the lines of road by which they are to be sent. In this first sorting, all those letters are placed together which are intended for the same line of road, the different heaps being distinguished by numbers, as 1, 2, 3, &c.; and persons are employed continually in collecting together the corresponding heaps from all these tables in order to their being conveyed to other tables where other sorters are employed. A certain number of individuals are assigned to every road, and by them the letters are again assorted for the different places to which they are directed. By this division of the labour the work is much simplified. It would, indeed, be hardly possible to divide at one operation so great a number of letters, intended for so great a variety of places, as are brought together every evening in the London Post-office; 300 persons are employed in sorting the letters and newspapers for each of the 700 places for which bags are made up. The newspapers merely require to be faced and sorted, and the uniform rates of postage, instead of the complex system of charges by distances, have greatly facilitated the business connected ith the despatch of the mails. Every letter and newspaper, however, passes more than once through the hands of the sorters.

The next operation is that of placing the assorted letters in bags, previously to which, however, an account is taken of the unpaid letters, that the postmaster of the town to which they are going may be charged with the same. The bags are then sealed, and delivered into the custody of the mail-guards. Each of these guards, of course, takes charge of the mail-bags for every post-town through which the mail-coach, with which he travels, is to pass; and, to avoid confusion, he places the whole number of bags in a large sack, arranging them in the inverse order to that in which they are to be delivered. For instance, the Dover coach takes the mails for Welling, Dartford, Rochester, Sittingbourn, and Canterbury, as well as for the place of its ultimate destination. The Dover bag is therefore placed in the bottom of the sack,—that for Canterbury next,—then the Sittingbourn bag, and so on; the one for Welling, which will soonest be wanted, being placed nearest to the mouth of the sack. The coaches which travel to greater distances, and which pass through a great number of post towns, must carry several of these sacks, which are always unsealed, for the greater convenience of taking out the bags on arrival at the different towns.

At the appointed time, to the very minute, the work is finished, and, as the clock strikes eight, the sacks are dragged into the Post-office yard, and put into the mails and mail-carts. Since so large a bulk of the correspondence of the kingdom has been conveyed by railway, the bags have been taken to the railway stations by omnibuses, and nine of these vehicles now stand on the spot where the old Edinburgh, the Glasgow, the Holyhead, the Manchester, Liverpool, and other "crack" mails of the day once drew up with their gallant teams. The total weight of the newspapers and letters despatched on a Saturday night, and including the bags, is above eight tons, and we should imagine that at least five tons out of the eight are despatched by railway. Each newspaper weighs, on an average, two ounces, and newspapers constitute between 60 and 70 per cent. of the total despatches, the letters about 20 per cent., and the bags make up the remainder of the weight.

Before the recent changes, the chargeable letters in the mails leaving London were found to weigh only 7 per cent. of the whole weight of those mails, including the bags. The total weight of the chargeable letters and franks carried by 32 mails leaving London was only 2912 lbs. Deducting one-half as the weight of the franks and franked documents, the weight of all the chargeable letters was only 1456 lbs., being 224 lbs. less than the weight which a single mail is able to carry. The average weight of the 32 mails was found to be as follows:—

Average of 32 Mails.	Pounds weight.	Per centage.
Bags weighed	68	14
Letters, including franked letters and documents	91	20
Newspapers	304	66
	463	100

From the moment they are delivered into his custody, the guard is held responsible for the safety of the letter-bags. The box in the hind part of the coach, in which they are placed, is secured by a patent lock, the key of which is, of course, in the guard's possession. On arriving at a post-town, the bag intended for it is delivered into the custody of the postmaster, who, in his turn, commits to the guard any letters which may have been deposited in his office, directed to places through which the mail will pass, and [illegible] diately locked up in the coach.

MEANS OF TRANSMISSION.

The inland correspondence is carried by railroads, by four-horse and two-horse coaches; by cars in Ireland, by single-horse carts, on horseback, and foot.

The number of miles travelled over in England and Scotland by the mail-coaches in the following years, was as follows:-

1834 . .	5,911,006	1837 . .	6,643,217
1835 . .	6,931,218	1838 . .	7,204,295
1836 . .	6,233,478	1839 . .	7,377,837

And a parliamentary return, printed 1836, presented the following account of the speed and cost of the mail-coaches:—

	England. Miles.	Ireland. Miles.	Scotland Miles.
Greatest speed travelled per hour	10⅜	9⅛	10½
Slowest ,,	6	6⅞	7
Average speed ,,	8⅞	8¼	8⅛
	Per mile.	Per English mile.	Per mile
Average mileage for 4-horse mails	1⅞*d.*	2⅞*d.*	1½*d.*
Ditto for 2-horse ditto	1¾	1¾	2¼

Besides the mail-coaches, steam-boats and sailing-packets are used for the conveyance of the mails to Ireland and foreign countries. The communication between England and Ireland is on four different lines—namely, between Liverpool and Dublin; Holyhead and Dublin; Milford Haven and Waterford; and Port Patrick and Donaghadee: between London and Dublin the communication is twice a-day. There are packets for France daily; Belgium thrice a-week; Rotterdam, Hamburg, Stockholm, Lisbon, Cadiz, and Gibraltar weekly; Malta, Greece, and the Ionian Islands twice a-month; the Leeward Islands and Jamaica twice a-month; Mexico, Hayti, and Cuba monthly; and Madeira, Brazils, and Buenos Ayres monthly. Steam-boats are employed between Great Britain and Ireland; and in the communication with France, Belgium, Holland, Hamburg, Sweden, and with Spain, Portugal, Malta, and the Ionian Islands. The correspondence with India is transmitted by a line of fine steamers which sail once a-month for Alexandria. The transmission of the India correspondence has been remarkably accelerated within the last few years. Instead of being sent by the Cape of Good Hope, a voyage which occupied four or five months, letters are now sent through France (under a convention with the French Post-office) to Marseilles, and are thence transmitted by steam-boats to Alexandria. Here they are taken on the Mahmoudieh Canal to Cairo, and then across the desert (where stations and hotels are established) to Suez. From Suez they are conveyed by steam-boats by the Red Sea to Bombay. Letters written in Bombay on the 1st of the month have been received in London before the month had closed, as many weeks being occupied in the transit as there were formerly months. The effect has been to produce a great increase in the number of letters. During the five years preceding the establishment of the overland-mail, the average number received and despatched annually was estimated at 300,000; but in 1840 the total number conveyed by the new route was 680,842, being an increase of 126 per cent. In 1839 a line of steam-boats of a superior class was established, under contract with the government, between Liverpool and Halifax, in Nova Scotia. They sail twice a-month from each port, and hitherto have been remarkably successful for the rapidity and regularity with which they have made the voyage—in two instances in only ten days—thus rendering it possible for a letter to be transmitted from Bombay to Halifax *viâ* London in less than six weeks. In the course probably of 1842 another line of contract steamers will open a more rapid communication with all the West India Islands, and with South America, and probably Texas and New Orleans. The arrangements for rendering the facilities of communication punctual and rapid are on a scale of largeness which has hitherto been unknown. To look forward to the extension of steam-navigation between Great Britain and the Australian colonies *viâ* the Isthmus of Panama, is not now by any means so distant a prospect as it appeared a year or two ago. It is calculated that the voyage from Falmouth to Sydney may be made in 60 days.

MAIL-COACHES—MR. PALMER'S IMP

The present system of mail-[illegible] its origin to Mr. Palmer. In 1784 Mr. Palmer laid a plan before Mr. Pitt, which was adopted by the government, after much opposition from the functionaries in the Post-office. A very great improvement in the transmission of the correspondence of the country was effected by this plan.

Mr. Palmer, who was a proprietor of the theatre at Bath, observed that the post which left that city on Monday night did not deliver its letters in London until two or three o'clock in the afternoon of the following Wednesday, and sometimes even later: the letters were then delivered in London at different times of the day, as each post arrived. On the other hand, the Diligence or coach, which left on Monday afternoon, arrived in time sufficiently early for the delivery of packets by ten o'clock on the Tuesday morning. The charge upon a single letter sent by the post from Bath to London was then only 4*d.*, and the expense by the Diligence, for booking, carriage, and porterage, amounted to 2*s.*; but so important was it found by the tradesmen of Bath to insure an early delivery of their letters, that not only were they generally willing to incur this larger charge by sending their letters in the form of coach parcels, but the porters of the inn whence the packets were delivered were usually stimulated to extra haste by the promise, in that case, of an additional payment, and which promise formed part of the direction.

The slow rate of travelling here mentioned was by no means peculiar to the Bath mail. The post of Monday night from London reached Norwich, Worcester, or Birmingham, only on Wednesday morning, and did not arrive at Exeter until Thursday morning at nine o'clock. Dr. Cleland, in his 'Statistical Account of Glasgow,' tells us that before the introduction of mail-coaches into that part of the kingdom in 1788, the course of post from London to Glasgow was five days, the letters being then carried round by Edinburgh.

Mr. Palmer stated, in the plan presented to Mr. Pitt, that "the mail is generally intrusted to some idle boy without character, mounted on a worn-out hack, and who, so far from being able to defend himself, or escape from a robber, is much more likely to be in league with him;" and he suggested the discontinuance of this horse-post, and the employment of coaches, which, in consideration of their liability to attack from robbers, should each be provided with an armed man to guard them. It formed a part of the proposed improvement that the times of departure of the coaches bearing mails from places in the country should be so regulated as to insure their nearly simultaneous arrival in London at an early hour of the morning, and that the whole should quit the metropolis at the same hour in the evening. The first mail-coach upon Mr. Palmer's plan left London for Bristol on the evening of the 2nd of August, 1784.

When Mr. Palmer presented the first rude sketch of his plan to Mr. Pitt, the minister, in 1782, with an intimation that he was willing to devote his entire time and attention to the carrying it into operation; that, if he failed, he should not expect a shilling for his services; but that, if he succeeded, he expected 2½ per cent. upon the increase on the net revenue, he was told that this remuneration would not be objected to; but though his plans had found favour with the sagacious premier, the case, as already stated, was far different with the Post-office authorities, from whom he met with the most strenuous opposition. The obstacles which he encountered are set forth in grave 'Parliamentary Reports,' and at this day appear to us as inconceivable as some of them are amusing. The Post-office authorities seem then to have been as anxious to put on the drag as their successors have been to render the mails punctual and rapid. One of the former, Mr. Hodgson, "did not see why the post should be the swiftest conveyance in England." This was in 1797. Mr. Draper, another gentleman employed in the Post-office, declared that "the post cannot travel with the same expedition as chaises and diligences do, on account of the business necessary to be done at the office in each town through which it passes;" and he objected to coaches as travelling too fast. Mr. Palmer proposed to allow the guard a quarter of an hour at the different post-towns; but this was not enough in Mr. Draper's opinion, and half an hour would be required in many places. Mr. Palmer's theory of accelerating the mails appeared worthless in the eyes of Mr. Hodgson, because it was founded on an "impossibility," which consisted in supposing "that the Bath mail could be brought to London in 16 or 18 hours."

Mr. Palmer was not well treated by the ministry of the day. He had been indefatigable in promoting general improvements in the management of the Post-office system. In 1797 the mails were, generally speaking, conveyed in one-half the previous time; in many cases in one-third of the previous time; and in some of the cross-posts in one-fourth. Posts were established daily to above 500 places which had before only received them thrice a-week. From 1793 to 1797 the revenue of the department had risen from 391,508*l.* to 541,833*l.* Instead, however, of receiving the per centage on the surplus net revenue beyond 240,000*l.*, for which he had stipulated, an annuity of 3000*l.* was settled upon him.

ACCELERATION OF CORRESPONDENCE BY THE RAILWAYS.

The acceleration of the mails since the great lines of railway have been opened has effected as great a change in the despatch of letters as sixty years ago was occasioned by Mr. Palmer's improvements.

The north of England, the whole of Scotland, and the greater part of Ireland, with parts of Wales, are connected with London by means of the Birmingham Railway; and four out of the nine omnibuses or Post-office accelerators which proceed from the General Post-office to the railway stations are loaded with the correspondence for the above-mentioned parts of the country and for Birmingham and intermediate and collateral places; three proceed to the station of the South-Western Railway, with the correspondence for all parts of Hants and the western counties; and the correspondence for Bristol and intermediate and surrounding places, also for South Wales and the south of Ireland, is conveyed in two omnibuses to the station of the Great Western Railway at Paddington. The accelerators in connexion with the Birmingham Railway proceed to the Euston-square station, which they reach in about 18 minutes, and are driven into a part of the premises not accessible to the public, each being attended by a mail-guard, seated inside. The railway servants immediately carry the large sacks to a huge-looking machine, which, with an accompanying tender, is the last of a long train of carriages. This caravan is the Railway Post-office. In 10 or 12 minutes the omnibuses are emptied of their contents, and the train of carriages is then wound up to the station at Camden Town, where the engine is attached.

THE RAILWAY POST-OFFICE.

The Railway Post-office travels on the northern chain of railroads, the letter-bags on the Great Western and South-Western lines being conveyed in a mail tender in the care of a guard. The Railway Post-office is a carriage 16 feet long, seven and a half feet wide, and six and a half feet high, and is fitted up as a sorting-room, with counters and desks, and tiers of neatly-labelled boxes or pigeon-holes. While the train is moving at a rate which occasionally exceeds 30 miles an hour, two clerks are engaged in sorting letters and arranging letter-bags; and while maintaining the same speed, letter-bags belonging to towns on or near the line are taken up by an ingenious contrivance, which is the invention of Mr. Ramsey, of the General Post-office. The bags to be taken up are hung upon a beam close upon the line, and on being detached from it, as the train passes, fall into a net spread out from the exterior of the Railway Post-office, while the bags to be delivered are simply dropped into the road. The letter-bag so taken up is opened, and its contents sorted. Thus a bag taken up at Watford may contain letters for Leighton Buzzard, or for other places northward. These letters are distributed in the boxes labelled with the names of the towns for which they are destined, before reaching which the letters are collected and put into the proper bag, which is left while at full speed at many of the stations. If the engine did not stand in need of a supply of water, and passengers were not leaving the line at the different towns, the Post-office business would scarcely require any stoppages. The time allowed is only three minutes at some of the stations; at some five, and at others ten minutes are allowed: but at Birmingham, which is so important a central point, the train stops half an hour.

The correspondence for Leicester, Nottingham, Derby, Rotherham, Sheffield, Leeds, Hull, York, Darlington, and for the districts which surround each of these places; also for Edinburgh and the east of Scotland, with the intermediate places, is detached at Rugby, 82 miles from Euston-square station; the lines of railway from thence being opened to Darlington, 264 miles from London, which is reached by a quarter-past nine in the morning, or 12¾ hours after leaving London. This great north-eastern line has various branches, there being one to Nottingham, one to Sheffield, one to Leeds, and one to Hull. The letter-bags are under the care of guards, who leave and take up bags only where the train stops.

The Railway Post-office, with the clerks, continues its route to Birmingham; thence by the Grand Junction Railway to the Chester and Crewe branch, where part of the Irish correspondence is detached, and conveyed by the latter railway. At Parkside, which is on the Liverpool and Manchester Railway, the correspondence for those two places is detached. The line northward is continued by the North Union Railway to Preston, and thence by the Preston and Lancaster Railway to Lancaster, distant 241 miles from London, and which is reached in eleven hours and a half, or before 8 o'clock in the morning. The clerks are occupied during the whole night in taking up and delivering bags, and in sorting their contents. At 10 stations the bags are dropped or taken up by means of the bag-apparatus; at two this is effected by hand without stopping; and at 19 others the train stops. The number of stations between London and Lancaster is 31. The distance between these stations averages about eight miles; one station is 18 miles distant from any other, and one is only three miles and a quarter. Every 20 minutes therefore, on an average, bags are to be left and taken up, and extraordinary care and vigilance must be required to perform all the necessary operations, and, under such circumstances, without failure and error. The number of clerks employed in the department of the Railway Post-office is 18. Eight work between London and Birmingham, and 10 between Birmingham and Lancaster. The night-work is performed by 12 clerks; but the correspondence by the day-mails not being so heavy, the services of six clerks only are required. Bags are made up in the night-office for above 50 different towns, and in the day-office for about 40. The gross number of bags received in one day by both offices is nearly 500, containing on an average about 20,000 letters. The distance between London and Lancaster is performed in nine hours and a quarter, exclusive of stoppages. The railway here terminates, and the letter-bags for Glasgow and the west of Scotland and intermediate places, and for the north of Ireland, are conveyed from Lancaster by the mail-coaches.

The principle by which the charge for conveying the mails by the different railways should be determined, involved at first many difficult considerations. The amount of capital invested in the necessary buildings, engines, tools, &c., for the passenger and light goods traffic, was ascertained, and allowance was made for a return of profit upon such capital to the amount of six per cent., to which one and a half per cent. was added for wear and tear. The sum thus obtained was next divided by the number of trips annually required by the Post-office, and the amount per trip again subdivided, so as to apportion to the Post-office that part only of the expense which arose out of conveying the gross weight taken on its account, the calculation being made on the average weight of a passenger train, exclusive of the engine and tender. The railway companies appear to have acted in a liberal spirit in coming to this arrangement, the result of which is that the Post-office pays only for the weight of its own carriage and contents. The weight of the Railway Post-office, with the tender, bags, clerks, &c., is stated by Mr. Whishaw, in his work on Railways, to be above nine tons.

In a few years the transmission of the mails by the railways will have become so general, that scarcely a single mail-coach will be required from London. In 1837 there were 27 which left nightly, travelling above 5500 miles in the aggregate before they reached their respective destinations. It is impossible to have witnessed their disappearance one by one without a feeling of regret. There are but 10 now left, two of which are only pair-horse mails; and several mails will be superseded before the summer of 1841 is over. The number of miles travelled by the direct and cross-road mails, in 1837, was upwards of 7,377,000—a distance nearly equal to a journey round the globe on every week-day in the year.

Post-Office Despatch in 1760.

Seventy years ago the communication by post with the principal towns of England was only twice or three times a-week, and with many places was not so frequent. Saturday was the great post-day, mails being on that day made up for all parts of England, Scotland, and Ireland; but "the post goes every day to those places where the court resides, as also to the several stations and rendezvous of his Majesty's fleet, as the Downs and Spithead; and to Tunbridge during the season for drinking the waters." This was in 1768. In the olden time, if we may apply that term to a period almost within the recollection of persons now living, the post went out daily to the place where the fashionables of the last century were accustomed to resort; while to Manchester, Liverpool, Leeds, Birmingham, and all our great cities, three times a-week was considered sufficiently frequent. Let the reader imagine, if possible, that these towns in the present day had only a post-office communication with London thrice a-week instead of twice a-day, and that Bath and Tunbridge had their daily post; and it will be felt how great are the changes which have taken place in our social and commercial intercourse since the commencement of the reign of George III. The account from which we quote says:—"Letters are received from all parts of England and Scotland (except Wales) every Monday, Wednesday, and Friday; from Wales every Monday and Friday; and from Kent and the Downs every day."

Post-Office Despatch in 1841.

By means of the extraordinary facilities of despatch afforded by the railways, a letter written in London at six o'clock in the evening is read at the breakfast-table next morning at Lancaster, 240 miles distant. Dublin, Edinburgh, and Glasgow are reached in 24 hours, Belfast in 23; and other places in a space of time which is so inconceivably quick that some time will elapse before our ideas become accustomed to such a rapid mode of intercourse. It is quite possible, in a case of emergency, for a merchant at Birmingham to write to his correspondent at Liverpool in the afternoon and receive a communication in reply the *same night*, the distance, which is above 200 miles, being traversed between half-past two and a quarter before twelve, and an hour being allowed at Liverpool. At the ordinary rate of acceleration, prior to Mr. Palmer's plan being adopted, a letter despatched from London on Monday night at eight o'clock, instead of reaching Lancaster at eight o'clock the next morning, would not arrive until Thursday afternoon at four o'clock. A letter may now be written from London on one day, and an answer to it received from Lancaster on the *following* day. Before the period to which we have alluded, actually a week would have been required to accomplish [illegible].

Morning Mails.

By the recent establishment of morning mails, letters are sent to most parts of the country twice a-day, or 12 times a-week. Thus, a letter from Brighton, addressed to a person in Yorkshire, is not delayed 14 hours in London, but is hurried on to its destination two or three hours after it reaches the General Post-office. A merchant at Liverpool also receives the letters which arrive every morning in London by the foreign mails without that injurious delay which took place only two or three years ago. The change arose out of the accelerated speed of railway conveyance, which made delays appear monstrous which were formerly little thought of. When the mail-coach was 24 hours in travelling from London to Liverpool, a delay of 15 hours in London was little more than one-half the time occupied by the journey; but when the same distance came to be performed in about nine hours, then the disproportion appeared so great as to require an immediate alteration; and at present letters, instead of lying in the General Post-office all day, are despatched by the morning mails, and reach places above 200 miles distant from London before the hour at which they would formerly have been sent off by the night mails. The morning mails are of course available to as well as from London. The greater frequency and despatch in the transmission and delivery of letters are justly regarded among the most efficient means of promoting increased correspondence. The statements previously given prove this; and reference might also be made to the great increase of correspondence which took place between Liverpool and Manchester after the opening of the railroad between those two towns, and the more frequent despatch of letters from each place.

Secondary Distribution of Letters.

At the present time the following, considering posts formerly called Penny-posts, "Fifth-clause posts," * and sub-offices as post-offices, may be taken to be about the numbers:—

	Post offices.	Sub-offices.	Penny-posts.	Total
England . .	650	190	1090	1930
Scotland . .	220	105	230	555
Ireland . .	330	105	200	635

Every post-office in the United Kingdom has direct communication respectively with the chief offices in London, Dublin, and Edinburgh.

The total number of persons employed in the business of the Post-office in England is stated, in the 18th Report of the Commissioners of Revenue Inquiry (made in March, 1829), to amount to 4905. Of these, 3059 persons were officially entrusted with the receipt and delivery of letters in England, and were exclusive of the persons employed in London, and of 563 deputy postmasters in the country.

London Delivery of Letters.

The duty of the London General Post-office in the receipt of letters consists in unloading the mails and delivering the letters, that is to say—1, in opening the bags, of which there are 700, and in checking the deputy-postmaster's accounts for unpaid letters, one person examining a bag in one minute and a half; 2, sorting into districts; 3, telling, that is, making out bills against every letter-carrier; 4, delivering; the letter-carriers return by a certain time, and pay the money charged against them to the Receiver-general.

Portions of the letters, as they have undergone the process of stamping and examination, are, from time to time, delivered to letter-carriers, who are employed in the assorting of them, which in the first place is effected into about 14 grand divisions; immediately after which the letters are taken by other letter-carriers, who sort them in divisions corresponding with the districts of actual delivery. In the progress of this sorting the letters are sent in small parcels to the tellers, who cast up the amount of each parcel, and deliver a ticket of each charge to the check-clerk. These parcels are then deposited in boxes provided for each district, and subsequently retold by the letter-carrier, by whom they are to be accounted for; and he states the amount of his telling to the check-clerk, to see that it corresponds with the tellers' tickets. The carriers then set out in order to deliver the letters; and in order to expedite this business as much as possible, a plan was first put in operation when the New Post-office was opened for business. Those letter-carriers whose walks are at a considerable distance from the office, take their stations in carriages built something in the form of an omnibus, and are conveyed as near as possible to the scene of their duties. The postmen are packed in these carriages after the same principle adopted in placing the mail-bags in the sack; the man who has the greatest distance to go gets first into the carriage, while he who is to quit it the earliest gets in the last. By means of these omnibuses there is much less difference than formerly between the time of delivering letters at the near and the more distant parts of the town; while the greater convenience afforded by the enlarged space and well-considered arrangements of the new office has occasioned the sorting and other preliminaries to be got through in much less time than formerly. A few years ago there were three classes of letter-carriers, Foreign, General, and Twopenny; but the former are no longer a distinct class, and there is a tendency to render the services of the remainder available for the general services connected with the delivery of letters; and letters which arrive by the day-mails are delivered by the carriers employed in the London District (late Twopenny-post) department.

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* They are also called "Convention Posts," on account of the General Post-office defraying a portion only of the expenses, the remainder being made up by local guarantees in the district benefited by the establishment of an office.

THE LONDON DISTRICT POST (FORMERLY THE TWOPENNY POST).

In 1683 a metropolitan Penny-post was set up, the history of which is given at length in the 'Ninth Report of the Commissioners of Post-office Inquiry.' In a report of the Postmasters-general to the Lord High Treasurer, in 1702, they say,—"In obedience to your lordship's order of reference of Mr. William Dowckra's petition, we have considered of the allegations therein contained, and do humbly acquaint your lordship that we are informed your petitioner was the person who did first set up a Penny-post; and that it being thought to interfere with the power granted by parliament to the Postmaster-general, a suit was commenced against him by the order of the late King James, then Duke of York, whereupon there was a trial at the King's Bench bar, and a verdict given against him, and damages found; and that soon after the Revolution, the petitioner did apply himself to the House of Commons for some consideration of his case; and after examination thereof, the House came to a resolution that the petition and case of Mr. William Dowckra, merchant, in relation to the Penny-post office, be humbly represented and commended to his Majesty from this House, to relieve him therein, as to his great wisdom and justice shall be meet." Mr. Dowckra, on this recommendation, received a pension of 500*l.* per annum, for seven years from 1691, and afterwards for three years longer. In 1697 he was made Comptroller of the Penny-post; but it would appear that his enterprise in starting the post was better than his management of it, for he was dismissed in 1700, in consequence of complaints against him. The complaints set forth that "Hee hath removed the general Penny-post from Cornhill, a place most proper, being near the 'Change, and in the heart of the citty, to a more remote place altogether improper, whereby the messengers' walks are altered from one to two houres, so that letters are thereby delayed for some houre, to the great hindrance of business and fatigue to the poor messengers, and 100*l.* charges to His Majesty to fit his house for his own convenience. *Hee forbids the taking in any bandboxes* (except very small), and all parcels above a pound, which, when they were taken, did bring in considerable advantage to the office, they being now at great charge sent by porters in the citty, and coaches and watermen into the country, which formerly went by Penny-post messengers much cheaper and more satisfactorily. Hee stops, under specious pretences, most parcells that are taken in, which is great damage to tradesmen by losing their customers or spoiling their goods; *and many times hazard the life of the pa*[illegible] it *sent by a doctor or an apothecary.*" Other complaints [illegible] him with opening and detaining letters, &c.

Mr. Povey set up a private post in 1708, under the name of the Halfpenny Carriage, and appointed receiving houses and [illegible] to collect and deliver letters for hire within the city of [illegible] and Westminster. But this attempt was suppressed by the Post-office authoritie

The Commissioners of Post-office Inquiry stated that the regulations under which letters were conveyed by the Penny-post cannot be clearly ascertained from the records of the department. No limit appears to have been assigned to the weight of the parcels and packets, although it was required that they should not exceed 10*l.* in value, from which it may be inferred that the office was held responsible to that amount for their safe delivery. The conveyance of parcels continued down to 1765, when it was enacted by the 5 Geo. III. c. 25, that no packet exceeding the weight of four ounces should be carried by the Penny-post, unless it had first passed or was intended to pass by the General-post.

From the first establishment of the Penny-post down to the year 1794, the postage was paid in advance. The delivery of letters was originally confined to the city of London, Southwark, and Westminster; but it was extended to the towns and villages round London on the application of the inhabitants, who voluntarily agreed to pay an additional penny on the receipt of their letters. This additional penny was for some time a perquisite of the messengers; but, from 1687, it was carried to the account of the revenue.

The charge of this additional penny was not authorised by law till 1727. In an account of the "gross and neat produce of the second penny by the letters taken in by the several receivers of the Penny-post office in London, which were directed and delivered to sundry persons in the country," the gross produce in 1687 is stated at 320*l.*; in 1690, as 314*l.*; in 1692, as 338*l.*; in 1700, it was 358*l.*; and in 1702, 361*l.*

The Penny-post became a Twopenny-post in 1801, under the 41 Geo. III. c. 7, and in 1805 the postage on letters delivered beyond the limits of the city of London, Southwark, and Westminster, was advanced to threepence. In 1831 the boundaries of the Twopenny-post were extended to include all places within three miles of the General Post-office; and, in 1833, the boundaries of the Threepenny-post were extended to places not exceeding 12 miles.

The above districts are not now distinguished in any respect from other parts of the country, except by the frequency of collection and delivery of letters, and the service forming a distinct department of the General Post-office.

Since the commencement of the present century—that is, from the time that the Penny-post was converted into a Twopenny-post—the gross annual receipts of the establishment have been gradually augmented from 54,893*l.* to 120,801*l.*, which was the amount for the year ended 5th January, 1837. The charges for collection on this latter sum amounted to 47,466*l.* In 1839 the gross produce was 137,041*l.*, and the charges of collection 62,251*l.*, leaving a net revenue of 74,790*l.* Assuming the increase of letters to continue for another year at the same rate as 1840, the gross revenue of this department will be equal to what it was before the uniform rates of postage came into operation. In 1837 there were 209 Twopenny-post receiving houses within the three-mile boundary, and [illegible] within the Threepenny-post boundary. The keepers of the receiving houses are shopkeepers; they used to be paid according to the number of letters received; but they now have fixed salaries, according to the duty performed, and the situation. Some of these annual payments are very small, as low as 5*l.*, and varying from that up to 40*l.* In one instance, a salary of 100*l.* is paid; this is for a receiving-house in Cornhill. The total annual expense of the 209 Twopenny-post receiving houses in 1837 was 3,336*l.*

Up to November 14, 1837, the average time which was occupied before an answer could be received to a letter put into the receiving-house between eight A.M. and seven P.M. was 14 hours; and the average period between the receipt and delivery of a letter was about 5½ hours. There were six deliveries daily, at 8, 10, and 12 o'clock, A.M.: and 3, 5, and 7 o'clock, P.M., the collections being made from the different receiving-houses two hours before each delivery, with the exception of that for the first, which was made at eight the previous evening. From two o'clock till five, a period when the number of letters posted is probably greater than at any other time, there was no delivery; and the last collection of letters was made at five o'clock, whilst letters from the General-post receiving-houses were not collected till six. The Commissioners proposed that the deliveries should in future be every second hour, from eight A.M. until eight P.M.; the collections to be made at the same hours, viz., at 8, 10, and 12, A.M., and 2, 4, 6, and 8, P.M. This recommendation was carried into effect on the 14th of November, 1838; and the inhabitants of the metropolis are now enjoying the benefit of the Commissioners' suggestion. Mr. Rowland Hill, in his pamphlet on 'Post-office Reform,' proposed a plan by which the interchange of letters in the metropolitan district would have been still further accelerated. Instead of treating such an enormous place as London as one town, he would subdivide it into a certain number of districts, for the purpose of facilitating intercourse between the different parts. The riding work of the Penny-post office is now provided for, under contract, at an expense of 7½d. per double mile for the horse-posts, and 7¼d. for mail-carts. The wages of the riders and drivers, and the expense of the carts, are defrayed by the contractor, who undertakes to convey the bags at the rate of eight miles an hour. The total sum paid for this service in 1836 was 4107l. The Commissioners of Post-office Inquiry suggested that, in many cases, the short stages and omnibuses running in and around London could be more efficiently and cheaply employed for the purpose of conveying the letter-bags; and in a few cases contracts have been entered into with the proprietors of these vehicles.

The rate of postage previous to January, 1840, averaged 2¼d. within the London district; at present the postage of each letter averages about 1¼d., and the gross revenue already equals that of the year 1835. The gross receipts in 1838 (the last complete year under the old rates) was 118,000l., and the gross revenue for 1840 (the first complete year under the new system) was 104,000l., showing a deficiency of only 14,000l., or 13 per cent. In February, March, and April, of 1841, compared with the same months in the previous year, the rate of increase was 14 per cent.; so that before June, 1842, there is every prospect of the complete restoration of the gross revenue of this department. Although the facilities of correspondence within the London district have been so much increased since 1835, the net revenue of 1840 is only 12,000l. less than in the former year.

The following is a return of the number of letters transmitted through the LONDON DISTRICT POST:—

Return of the Number of Letters which have passed through the London District Post (exclusive of all General Post Letters) for the periods following:—

1839.		1840.					1841.				
	Total.	Four weeks ending	Paid	Un-paid.	Stamped.	Total.	Four weeks ending	Paid	Un-paid	Stamped.	Total.
Total Number of Letters for four weeks, ended 1 Jan, 1839 . .	970,953	4 Jan. .	825,282	477,273	..	1,302,555	2 Jan. .	810,052	140,328	619,166	1,569,546
„ four weeks, ended 29 Jan., 1839	1,067,358	1 Feb. .	1,207,985	331,589	..	1,539,574	30 Jan. .	926,264	157,242	752,134	1,835,640
„ two weeks, ended 12 Feb. „	572,742	29 Feb. .	1,312,379	312,757	..	1,625,136	27 Feb .	884,822	207,265	771,041	1,863,128
„ „ 4 May „	577,273	28 Mar. .	1,308,100	214,863	..	1,522,963	27 Mar .	833,849	142,766	789,543	1,766,158
„ „ 30 Nov. „	510,698	25 April .	1,368,100	202,390	..	1,570,490	24 April .	821,807	138,618	777,210	1,737,635
		23 May .	1,198,613	197,922	285,079	1,681,614	22 May .	851,513	144,176	855,387	1,851,076
		20 June .	1,001,088	182,914	518,342	1,702,344	19 June .	906,252	140,299	837,724	1,884,275
		18 July .	920,157	175,927	565,145	1,661,229					
		15 Aug. .	814,873	159,153	536,197	1,510,223					
		12 Sept. .	752,423	152,441	458,658	1,363,522					
		10 Oct. .	790,919	151,106	501,069	1,443,094					
		7 Nov. .	830,235	150,429	577,598	1,558,262					
		5 Dec. .	812,289	148,632	596,997	1,557,918					

The above Returns are all that can be furnished for 1839, and these are partly taken from the Returns dated 13th March, 1840, and from some weekly accounts that were kept in May and November, 1839.

FACILITIES FOR TRANSMITTING SMALL SUMS OF MONEY.

We cannot leave the subject of Post-office management without adverting to the facilities afforded by the Money-order department of the Post-office to the labouring classes, for the transmission of small sums, and which are the means in many cases of saving their earnings from waste, and of preserving their families in comfort while compelled to work at a distance from home. Three or four years ago a commission of 5 per cent. was charged on the transmission of sums under 5l. 5s., but it was necessary to enclose the order in another sheet, which rendered it liable to double postage. To send 10s. to an individual residing 160 miles from London, could not have been accomplished at a less cost than 2s. 2d. Afterwards the order was given on a sheet of letter-paper, and only a single postage was necessary. Next the commission was reduced to a fixed charge of 1s. 6d. for sums exceeding 2l. and not exceeding 5l., and to 6d. for all sums not exceeding 2l.; and in November, 1840, the charges for the same amounts were reduced from 1s. 6d. to 6d., and from 6d. to 3d.; and any sum under 40s. may now be sent to the farthest corner of the United Kingdom for 4d. It is impossible to observe the parties who avail themselves of these facilities, without being struck with the very beneficial popular influence which may be produced by a public institution like the Post-office. The transaction, by which a small sum may be transmitted from London to any part of the United Kingdom, or from thence to London, or from one post-town to another—is so simple, as to occasion little surprise that the reduction of postage and commission should, in two years, have led to an increase of fourteen-fold in the sums transmitted from London. Persons applying at the Money-order office, General Post-office, or at the several Branch offices in different parts of London, obtain an order payable by the postmaster of the post-town nearest to which the person resides to whom the order is sent. The order does not bear the name either of the person who sends or the person who is to receive the money, but the postmaster, to whom it is addressed, is informed of these particulars by a letter of advice. With this precaution nothing can be safer or more economical than this mode of transmitting small sums. Letters containing cash may be registered on payment of 1s. The following is a return of the amount of Money-orders issued in London, and of the poundage received thereon, in each of the three months ending the 5th day of February, 1839, 1840, and 1841; also a return of the amount of Money-orders paid in London in each of the same three months:—

Months ending		Issued.	Poundage.	Paid.
5th Feb.	1839	. £2,628	. £89 13 0	. £3,343
„	1840	. 6,854	. 123 15 6	. 4,141
„	1841	. 36,524	. 215 13 9	. [illegible]

COMMERCIAL INTERCOURSE WITH CHINA.

THE acquaintance of Europeans with the name of China cannot be traced further back than the Macedonian period. The names Thinæ and Sinæ were brought from India by the Macedonian Greeks, from whence also the modern designation of China came to us through the Portuguese. Serica (the country of the Seres) was a name used to designate the country which produced the silk that came overland from the north of China; and by the same route, and at a more recent period, came the designation of Kathay, or Kitai, which belongs to a tribe of Tartars who were in possession of the northern part of China from the year 917 to 1126, and had extended their conquests westward to Cashgar.*

The discovery of the use of silk was due to the Chinese, a fact which is affirmed by their own historians. After silk was known in Europe, we always find it represented as coming from some remote place, which we subsequently find mentioned as the country of the Thinæ or Sinæ, and as Serica, or the country of the Seres. Four hundred years after silk was known in Europe it does not appear that the culture of the silk-worm and the manufacture of silk had been introduced even into India, for the author of the Periplus of the Erythræan Sea mentions silk in Malabar not as a native production, but as an article brought thither from countries further to the east. But in speaking of the country of the Thinæ he states that there both the raw material and manufactured article were obtained. "The pre-eminence in this respect," says Dr Vincent, "is still due to the same country; for notwithstanding that all the nations of the East, and many in Europe, now breed the insect and weave the fabric, China is still the country of silk: the greatest quantity is still produced there, and of the best quality; it is the general clothing of the nation, and its superabundance still allows a vast exportation to all the countries of the East, and to Europe itself."†

Neither Herodotus nor any Greek writer of the period of the Persian empire makes any mention of the silk-worm, or silk, or silk stuffs, nor do the names of Serica or the Seres occur in their writings. Nevertheless they speak of rich and costly "Median robes," worn by the great personages of the Persian empire, which, from their descriptions, may have been wholly or in part of silk. These Median robes are mentioned as a peculiar description of vestments distinguished by their lustre—and by the play, the variety, and the magnificence of their colours—from all the vestments used among the Greeks. This conjecture may be considered established by the testimony of Procopius, who, long after, when speaking of the introduction of silk into Europe, expressly states that "the robes which were formerly called Median by the Greeks are now called silken."

The first Greek author who mentions the silk-worm is Aristotle, in his 'Natural History' (v. 19). He makes no mention of the country from which the silk came; and his statement that this substance (*bombykia* he calls it) was unrolled and spun, and that this was first done in the island of Cos, has led some to think that he spoke of a product of that island. But when we consider that Aristotle was kept informed of all the discoveries made in natural history during the conquests of Alexander, it is far more probable that he had in view an oriental product. Accordingly, Pliny (xi. 22), who copies this passage, speaks of the substance mentioned by his authority as 'Assyrian silk,' and in explaining the passage he says that the silk came from Assyria, and was worked up by the Greek women. With regard to his mention of Assyria in particular, this name was, like Media, used in a somewhat vague and indefinite sense.

It thus appears probable that silk was used in Western Asia before it was known to the Greeks, and that it was in use among the Greeks long before they knew whence the substance came. It was long indeed before either they or even the Romans had any information about the remote country from which silk came, or even of the manner in which it was produced. Thus Virgil (Georg. ii. 121) supposes that the Seres carded the silk from leaves, which may be a distortion of the fact that the silk-worm was fed on leaves; or it may be that he had heard of silk, the product of a wild worm, being collected from the trees in the forests, as it might be done now in some of the forests of North America.

Dionysius the geographer, also supposed it to be a vegetable product. No one who reads his description can doubt that he is describing silk, and not cotton:—

> "No flocks nor herds the distant Seres tend;
> But from the flowers that in the desert bloom,
> Tinctured with every varying hue, they cull
> The glossy down, and card it for the loom.
> Hence is their many-coloured texture wrought—
> Precious and bright in radiance—that transcends
> The mingled beauties of th' enamell'd mead:
> A web so perfect, delicate, and fine,
> Arachne, and Arachne's progeny,
> Might emulate in vain."*

The next writer who mentions silk is Pausanias (vi. 26), whose statement shows that more distinct information had been obtained concerning the silk-worm, and the country from which it came. He says that the thread from which the Seres form their cloths is not from any kind of bark, but is obtained in a different way. They have, in their country, a spinning insect which the Greeks call *ser*, but the Seres have another name for it. It is twice the size of the largest beetle, but in other respects is like the spiders which spin under the trees, and like them it has eight feet. The Seres keep the insect in buildings which are made suitable both for the summer and the winter. The produce of the insects is a fine-spun thread, which is wrapped about their feet. He supposes that this insect lived five years, and in the fifth year fed on green food, which he calls *calamus* (καλαμος).

The increasing demand for this article with the increase of luxury among the Romans rendered it desirable that some direct commercial intercourse should be opened with the country from which it came. Accordingly, in the year A.D. 166, the Emperor Marcus Antoninus sent an embassy to China by the way of Egypt and India; but the policy of that empire, which seems then to have been as exclusive as at present, did not admit of a close connection. The embassy was coldly received, and appears to have been attended with no result. A second embassy seems to have been sent in the year 284, in the beginning of the reign of Diocletian; but the particulars, with the precise object of the mission, and the results which flowed from it, are not noticed by the Chinese historians, from whom, through De Guignes, our information concerning these embassies is derived. These embassies must have tended to enlarge very considerably the knowledge which the Greeks and Romans had of the regions of eastern Asia.*

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* Vincent's Dissertation on the Seres, sec. 1.

† Dr Vincent's Edition of the Periplus, and his Dissertation on the Seres, sec. 4 and 6.

* Vincent's Dissertation on the Seres, v. 752, &c.

Without entering into the question whether Arrian was really the author of the 'Periplus of the Erythræan Sea,' we have certainly no authority for placing that work later than the date of the first embassy. Nevertheless, although written antecedently to that time, as well as the work of Ptolemy, both contain information so much more distinct and precise than any which previously existed as to render it evident that early in the second century of our æra the Greeks and Romans had obtained more precise information concerning the countries from which the materials for their silken garments were brought.

All the authors who mention silk, from Aristotle to the time of Justinian, with the exception of Aristotle himself, Pliny, and Pausanias, suppose that silk is obtained in some way from trees, or the bark of trees, or from flowers. In the reign of Justinian an event happened which put an end to the indirect intercourse between China and Europe, and in a short time served to obscure the slight knowledge of China which had previously been obtained. In the sixth century silk had become an article of general use among the Romans. But the Persians possessed the monopoly of the trade, both by land and sea, and watched it with so much jealousy that no person from the west was allowed to traverse the dominions of Persia towards China, nor was any traveller from thence allowed to proceed to the west. They were thus enabled to control the supply, so that the inhabitants of Tyre and Berytus, in Phœnicia, who had all along manufactured the article for the Roman market, were sometimes unable to procure an adequate quantity of the raw material. Some ill-advised measures which were adopted by the government of Constantinople put an entire stop to the importation of silk. In this extremity Justinian applied to the Arabians and to the king of Abyssinia, hoping to induce them to undertake the import of the raw material, but his application was unsuccessful. Thus the luxurious Latins were in a fair way of being deprived of the rich robes to which they had been accustomed, when a fortunate incident furnished the means through which an abundant supply of the material was ultimately secured.

Two Nestorian monks of Persia had travelled to Serindi (China), and lived there long enough to become acquainted with the history and treatment of the silk, as well as the processes of manufacture. Happening to be at Constantinople after their return, they stated their information to the emperor, who engaged them to return to Serindi, and bring away some of the eggs of the silk-worm. They accordingly went back, and secured a quantity of the eggs, which they deposited in a hollow cane, and brought in safety to Constantinople. They succeeded in hatching the eggs by the heat of a dunghill, after which they fed the worms with mulberry-leaves, and to their other services added that of teaching the Romans the art of manufacturing silk.

There is a curious statement of Pliny (vi. 22), paraphrased by Captain Wilford, in his learned Essays on the Sacred Isles of the West, which shows that a commercial intercourse then existed between China and India, and even Ceylon, and that the Roman merchants had then established an intercourse more or less direct with China. It seems that a king of Ceylon sent four ambassadors to the emperor Claudius. The chief of this embassy was called Rachias (which looks like the Sanscrit *raja*, "king"), and, being interrogated as to his knowledge of the Seres, answered, that the Seres lived beyond the Haimada, or Snowy Mountains, with regard to Ceylon; that the Seres were often seen or visited by his countrymen, and were well known to them through a commercial intercourse. That his father had been there, and whenever [illegible] caravans from Ceylon [going by sea, Captain Wilford thinks, to the Gangetic provinces of India, and there falling into the line of intercourse mentioned in the Periplus] went there, the Seres came part of the way to meet them in a friendly manner, which it seems was not the case with the caravans from the west, consisting of Roman merchants. Then Pliny adds, "As for the rest, and the manner of disposing of the goods, the Seres behave to them as they do to our merchants."*

It remains to make a few observations on the roads by which silk was brought from China so long as the intercourse subsisted between that country and the Greeks and Romans. Heeren finds in Ctesias some notice of a route, which, if it proves an intercourse with China, is the earliest on record. Ctesias, as quoted by Ælian, says, "The Indians, who are the neighbours of the Bactrians, send armies into the desert, where gold is found, in bodies of one or two thousand; and it is said that they do not return to their own country until the third or fourth year of the expedition." On this meagre and insufficient evidence Heeren builds up a theory of a trade with China in the time of Ctesias. The mention of gold, without any notice of silk, occasions a difficulty in this passage.

Our previous statements have shown that silk was known long before anything was heard of the people or country from whence it came; so it will also appear that, in consequence of the jealous care with which the Chinese excluded strangers from their territories, something was known of the people before anything at all was known of the country. Our earliest information mentions circumstances in which we are enabled to recognise the modern Chinese, but our information concerning the country scarcely enables us to determine what situation it was considered to occupy.

The author of the Periplus gives us more distinct information. He mentions two routes by which raw as well as manufactured silks were conveyed to India. The shortest but most difficult route was that which lay among the mountains of Tibet, in which the Ganges has its source; on that river the goods were ultimately embarked, and from its mouth were taken by sea to Limurike, in Canara. The other route approximates to that of which Heeren deduces some previous intimation from Ctesias. By this way the silks of China came the whole length of Tartary, from the Great Wall, into Bactria, from Bactria were conveyed across the mountains to the sources of the Indus, and then came down that river to Pátala or Bárbarike, in Scindi, and from Scindi to Guzerat.†

The account which the author of the Periplus gives of the mode in which the land traffic with the Chinese was conducted is interesting, as we are enabled to discern, through the obscurities and mistakes of the author, a mode of trade substantially the same as that which still distinguishes the trade of the Chinese with Russia, Tibet, and Ava.

Immediately under the north, at a certain point where the extensive sea terminates, lies a city called Thuia, not on the coast, but inland; from which both the raw material and manufactured silk are brought, by the routes already described. Then it goes on to say—"To Thuia itself the means of approach are very difficult; and from Thuia some few [merchants] came, but very rarely; for it lies far remote under the constellation of the Lesser Bear, and is said to join the confines of the Euxine sea, the Caspian, and the lake Mæotis, which issues at the same mouth with the Caspian into the Northern Ocean." To the frontiers of the country of which Thuia is the capital the Sesatæ repair with their goods. From the description given of these Sesatæ, they were evidently of a Tartar race:—"They are described as a race of men, squat and thick set, with their face broad, and their nose greatly depressed. The articles they bring for trade are of great bulk, and enveloped in mats, or sacks, which, in their outward appearance, resemble the early leaves of the vine. Their place of assembly is between their own borders and those of Thuia; and here, spreading out their mats, on which they exhibit their goods for sale, they hold a fair for several days, and at the conclusion of it return to their own country in the interior. Upon their retreat the Thuiæ, who have continued on the watch, repair to the spot, and collect the mats which the strangers left behind at their departure: from these they pick out the haulm, which is called *petros*, and, drawing out the fibres, spread the leaves double, and make them into balls, and then pass the fibres through them. Of these balls there are three sorts, the large, the middle-sized, and the small: in this form they take the name of *Malabathrum;* and under this denomination the three sorts of that masticatory are brought into India by those who prepare them. All the regions beyond this to the north are unexplored, either on account of the severity of the winter, the continuance of the frost, or the difficulties of the country; perhaps also the will of the gods has fixed these limits to the curiosity of man."—*Vincent's Periplus*, pp. 526—528. As observed by Dr. Vincent, the whole of this passage is in irremediable confusion, with particulars founded on truth, and a total that is inconsistent. Part of this confusion appears to have arisen from indistinct ideas or inaccurate information on the part of the commentators, or from their relying more upon the geographical statements of the author than his pretensions warrant. He was evidently a merchant rather than a geographer, and it is rather to his mercantile than his geographical information that our attention should be directed.

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* [illegible], in the 'Mémoires de l'Académie des Inscriptions,' tome [illegible] Vincent's Commerce and Navigation of the Ancients in the Indian Ocean, vol. ii. p. 4, &c.

* Asiatic Researches, vol. ix., p. 40.

† Vincent's Periplus, p. 116; and Dissertation on the Seres, sec. 5.

That the Thinæ were the Chinese is generally admitted, but concerning the Sesatæ there are very different opinions. Ptolemy mentions a people under the name of Besatia, who lived to the north of the country of the Kirrhadæ, or Arracan; he describes them in almost the same words with the author of the Periplus, and notices that they brought the Malabathrum from the latter country. Under the names of Sesatæ, or Besatai, the same people seem to be intended. Dr. Vincent, therefore, thinks that the Sesatæ were Tartars of Lassa. Heeren objects, first, that the Periplus places the Sesatæ too far north for this supposition; and, secondly, that the Tartars of Lassa have not the features described in the quotation. As to the first objection, it is equally applicable to what the Periplus says of China itself; and as to the other, such Tartars may have formerly occupied districts which they have now forsaken. But, in truth, there is no want of the Tartar physiognomy in the regions indicated. Not only do the nomade Mongols form a considerable part of the population of Tibet, but, according to Captain Wilford,* the tribes on the eastern borders of Bengal have to this day the features described in the Periplus. In any situation which may be supposed to be that assigned by Ptolemy, the inhabitants were advantageously situated for carrying on the trade between Bengal and Arracan and China. In Captain Wilford's opinion, these people were a wandering tribe, still called Bisati, who live by selling small wares and trinkets; for which purpose they constantly attend markets, fairs, and such places.

With regard to the article, the Sesatæ are understood to be described as bringing the betel-leaf in baskets made of leaves resembling those of the vine, or those of the *Dháo patra.* Dr. Vincent finds it impossible to comprehend this transaction, or why the betel should be taken to China for this purpose, or, indeed, taken there at all. But *at the present time* Arracan *still* produces the betel-plant, and China still requires a large importation to satisfy the demands of the Chinese. The favourite Chinese mode of preparing the leaf with lime, and using it with the areca-nut, although now in use in India also, may then have been a mode of preparation peculiar to the Chinese; and there is nothing unreasonable in presuming that, after retaining enough of the imported leaf for their own use, they may have exported to India some of that prepared by their own peculiar process. The Chinese are, indeed, to this day, remarkable for their preparations of the betel-leaf.†

The process of traffic is so intelligible and so consonant with modern practice as to require no elucidation. There is some allusion to it in the passage already given from Pliny; but it seems to have been first precisely mentioned by Pomponius Mela (iii. 6), who flourished about A.D. 45. He says—"The Seres are a nation celebrated for their justice, and have become known to us by their commerce; for they leave their merchandise in the desert, and then retire until the merchants they deal with have left a price or barter for the amount, which, upon their departure, the Seres return and take."* We have thus a mode of trade described which not only agrees with what is still practised in the land-trade of the Chinese, but furnishes one circumstance which enables us to identify the Thinæ with the Seres, and both with the Chinese.†

A land route is traced by Ptolemy from the shores of the Mediterranean to the frontiers of China. This immense inland communication began from the Bay of Issus, in Cilicia; it then passed through Mesopotamia from the Euphrates to the Tigris, near Hierapolis; it then went through part of Assyria and Media to Ecbatana and the Caspian Pass; after this it passed through Parthia to Hecatompylos, whence it proceeded to Hyrcania, and on to Antioch in Margiana, and from thence into Bactria. From Bactria a mountainous country was to be crossed, and the country of the Sacæ (Usbegs?) to the Stone Tower, and to the station of the merchants who traded directly with the Seres. From this station the route proceeded to the Casii or Cashgar, and through the country of the Itagûri (or Eyghurs of D'Anville), till it reached Sera metropolis, the capital of China itself. This extensive journey occupied seven months, and the distance in a direct line amounted to 2800 miles. It is not necessary to suppose that the whole of this journey was performed by one set of merchants; the goods probably passed through many hands between China and the Mediterranean. The whole journey was sometimes, however, performed by individuals. Ptolemy instances a Macedonian merchant of the name of Maes who sent his agent through the entire route. When we consider the length of this land-journey, the long time consumed, and the enormous expense of conveying goods so far, we cannot feel surprised to learn how greatly the price of silk was enhanced by the time it reached the Roman markets. "In what state the Tartar nations then were," says Dr. Vincent, "which could admit of such a traffic through all these different regions, it is now extremely difficult to determine; for though caravans have passed within these few years through China and Russia, and though there was a communication, and perhaps still is, between that empire and Samarcand, as also with the Usbecks, this was carried on by the natives of the respective countries, and afforded no passage for merchants to pass throughout from one extremity of Asia to the other."‡

The stone tower mentioned by Ptolemy still exists at the site indicated under the name of Chalsatoon, or the Forty Columns. The station of the merchants near this tower is *still* their place of rendezvous *to this day*, and is called Takht-i-Suliman, or *the Throne of Solomon*. At the distance of a day's journey further east is Hoshan or Owsh, where begins a chain of mountains which separates Bokhara from China. Hoshan is thus naturally the rendezvous of the merchants trading from the west to China. It *is defended by a fort now in ruins*; and on a small peak near it is a very ancient building, like a tower, of a very wonderful structure, called *the Throne of Solomon*; near it is a mosque of curious marble.

This account is given by Captain Wilford in his 'Essay on the Sacred Isles of the West,' in the Asiatic Researches,§ and it was taken, as he informs us, from the journal of a Russian, called Csernichef, who was made a prisoner by the Calmucks on the frontiers of Siberia, and sold for a slave to the Usbeg Tartars. His master, who was a merchant, went to trade to Cashgar, Yarkhand, and Cashmere, and, being pleased with his behaviour, gave him his liberty. He then, in company with some Armenians, found his way to Lucknow in India.

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* Asiatic Researches, vol. i. p. 80.

† The quantity of betel-leaf imported at Canton alone in the year 1833-4 was 27,053 peculs, valued at 142,568 dollars.

* Quoted in Vincent, ii. [illegible]

† Osbeck's Voyage to China and the East Indies, vol. i., p. 297.

‡ Dissertation on the Seres, sec. 6.

§ Vol. viii., pp. [illegible]

It appears that the communication with China by the route traced by Ptolemy was still open in the middle ages: and when the dominion of Genghiz Khan and his successors extended from the Sea of Amoor to Poland and the Black Sea, a regular intercourse by established posts existed through the whole extent. But from the time that the Tartar empire was broken up, no travellers or merchants from Europe dared to attempt the dangers and exactions which must have attended them at every step; particularly as the progress of Mohammedanism in these northern courts brought on an additional suspicion and hostility against every Christian who might have entered their country.*

There was also a road by which the merchants of Samarcand and Bokhara proceeded through the northern provinces of Chinese Tartary to China. This was a long, difficult, and dangerous route. As soon as the caravans crossed the Guxasters they entered the desert, in which they were necessarily exposed to great privations, as well as to dangers from the wandering inhabitants. From Samarcand to the first town of the Chinese was from 60 to 100 days. The merchants of Samarcand and Bokhara, on return of their caravan, transported the silk into Persia, and the Persian merchants sold it to the Romans at the fairs of Armenia and Nisibis.

As to the routes by sea, the statement in the Periplus is particularly satisfactory. Among the exports from Nelkundah—a town of Malabar, about 12 miles up a small river, at the mouth of which was the port of Barake—the author particularly mentions silk and silk stuffs, adding that they were brought thither from countries further to the east. The vessels remained at Barake until their lading was brought down from Nelkundah. This place appears to have been the central mart between the countries that lie to the east and west of Cape Comorin, or the hugher and further peninsulas of India. Fleets sailed from it to Khurse, which was perhaps part of the peninsula of Malacca; and Ptolemy states that there was a commercial communication between it and the northern provinces of China. From Nelkundah, as well as from Barygaza, silks, with other oriental produce, were embarked for the Persian Gulf and the Red Sea.

Cosmas, who travelled in the East as a merchant at the commencement of the sixth century, furnishes the latest information concerning the ancient commercial intercourse with China. He informs us that the Tzenistæ were in his time in the habit of bringing silk, aloes, cloves, and sandal-wood to the island of Ceylon. His Tzenistæ appear to be the Chinese: he describes them as inhabiting a country producing silk, beyond which there was no country, for the ocean encircled it on the east. He also says that the distance from it by land is much shorter, compared with the voyage by sea. "This circumstance," says Dr. Vincent, "can accord with no country at the extremity of the East but China; for no other country is so situated as to have this double communication—consequently his Tzinitsæ are Chinese: they have the same attributes as the Seres—they are the same people: first, by the means of approach; and, secondly, because they are surrounded by the ocean on the east, and because beyond them there is no navigation or habitation." In the time of Cosmas, Ceylon was the central mart for the commerce between Europe and Africa on the one side, and India and China on the other: none of the western merchants went farther eastward than Ceylon, but received the goods as imported into that island. As cloves are mentioned among the articles brought thither by the Chinese, they must at that time have traded with the Moluccas on the one hand, and with Ceylon on the other. We thus see by what maritime route silk was brought from China to those places with which the western nations had communication. It was imported either into the peninsula of Malacca by sea, and thence by sea to Nelkundah, whence it was brought by a third voyage to the Red Sea; or else, as at the time under notice, it was brought directly from China to Ceylon, from which place there was a regular maritime communication also with the Red Sea.* The statement of Cosmas refers to about the year 500. Fifty years later, as already observed, the Persians had obtained the monopoly of the whole silk-trade, which implies that the intercourse with India by the Red Sea had then ceased. Cosmas, indeed, noticed the abundance of silk in Persia, and attributed it to the short land-carriage between that country and China. But it also appears that the Persians carried on an active maritime intercourse with the ports of India, through which a large part of the supply was probably derived.

In considering the amount of information which the ancients possessed concerning China, it is first necessary to determine whether the Serica of the ancients was our China. D'Anville, in his memoirs, entitled 'Recherches Géographiques et Historiques sur la Sérique des Anciens,' after examining the evidence, concludes that, with the exception of a small district at the extremity of the province of Chensi, towards the north-west, the Serica of the ancients included nothing of the modern China. De Guignes, in his 'Histoire des Huns,' however, thinks that, under the name of Serica, the northern provinces of China were included, together with the Chinese conquests towards the west. It is admitted both by D'Anville, De Guignes, and others, that Serica did include all that the ancients actually knew of China proper, although it included more territory to the north and west than, as we now know, forms part of it, though subject to its dominion. Heeren dismisses the matter in a few words, observing that the name of Serica was generally employed as an indefinite designation for the country beyond the desert of Cobi, from which silk was obtained.

The difficulty which has been experienced on this subject has arisen chiefly from Ptolemy having assigned two different positions for the Sinæ and Seres, though there is no doubt that they are the same people. The ancient names, Thina for the country, and Sinæ and Thinstæ for the people, sufficiently resemble the modern appellations of China and Chinese. Serica also, the country of the Seres, which produces the silk, and the only country which originally produced it, is so clearly the same country, that, in Dr. Vincent's opinion, there would have been no dispute on the question to the present hour, but from the cause to which we have adverted.† It may then be considered as generally admitted, that the Serica of some ancient authors is identified with the Thina and Sinæ of others, and that both are the modern China.

The positive geographical knowledge which the ancients possessed concerning China was very little; the existence of such a country was not known to the Greeks before the time of Alexander.

The first mention of Thina by the Greeks is in the treatise of Aristotle '*De Mundo*' (if that work, indeed, be his). But the first explicit notice of it is by Eratosthenes, who was born in the year 276 B. C. This is undoubtedly the earliest notice from which we can infer that the existence of such a country as China was known to the Greeks.‡ Strabo (p. 702, ed. Casaub.) is the first extant geographer who mentions the *Seres* by that name, but he does not mention the situation of their country relatively to India; and he says that they lived to the age of 200 years. After this the general impression seems to have been, that the Seres inhabited the extreme east, without any distinct idea being entertained as to the distance of this extreme east, or the extent and position of the country. Mela (iii. 10) only says that the Seres were a people who dwelt between the Indians and the Scythians, and were remarkable for their justice, as illustrated by their mode of trade.

Notwithstanding the minuteness with which the author of the 'Periplus' describes the trade with China, his notices of all the countries beyond the Ganges are exceedingly obscure, and his personal knowledge did not extend further than Ceylon. It is something, however, to find that countries were admitted to exist in places which in previous theories were occupied by the ocean; while we still gather from the account that the author concurs with Mela and Pliny in considering China to be the last country in the known world, and that there was nothing beyond it but sea. The errors of the 'Periplus,' and of other ancient authorities, are chiefly errors of actual, not relative position; but there can be no doubt as to the people and country intended.

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* Vincent's Dissertation, sec. 7.

* Vincent's Dissertation, sec. ix., &c.; Kerr, vol. xviii., pp. 217, 270, 271.

† Dissertation on the Seres, in 'Commerce and Navigation of the Ancients to the Indian Ocean,' vol. ii., p. 573.

‡ Vincent's Commerce and Navigation of the Ancients, vol. ii., pp. 27, 576, 577.

The account which Ptolemy gives of Serica may be called complete and distinct, in comparison with the previous obscure intimations concerning that country.

In his 'Dissertation on the Seres,' Dr. Vincent thus sums up the information which ancient authorities furnish concerning China:—"The Seres are the Thinæ of Eratosthenes—the Sinæ of the Periplus; that their country lies between India on the north, and India-extra-Gangem on the south; that it is the remotest region towards the east; that it is bounded on its eastern front by the ocean; that the ocean extends (in their opinion) without interruption, on the same parallel, to the coast of Spain; and that silk was brought from this country, where it was originally found, to India, and out of India, by the Red Sea, to Egypt, and from thence to Europe."

PART II.

Account of the Modern Intercourse with China.

Towards the ninth century, when the Arabians had extended their conquests almost to the frontiers of China, their merchants no longer confined themselves to trading with Ceylon for the commodities of the East. They extended their maritime traffic even to the southern coasts of China, while their caravans maintained a land intercourse with that country through Persia and Tibet, or India.

The earliest information concerning this intercourse, and about China itself, is furnished by two Mohammedan travellers who were there about the middle of the ninth century. Their works were first made known to Europeans, in 1718, by the Abbé Renaudot, under the title of 'Ancient Accounts of India and China, by two Mohammedan Travellers who went into these parts in the ninth century: translated from the Arabic.' The first part of these travels is of the year 851 A.D., and the other of the year 877. When this work became known in Europe its authenticity was long questioned, until De Guignes removed all doubt on the subject by producing the concurrent testimony of the Chinese annals.

From this interesting document it appears that the restrictions on foreign trade were then very similar to what they are now, and the articles of commerce were of the same description. Copper money alone was in use. The people are described as wearing silk, and drinking tea out of porcelain cups; they used no wine; they had clocks with weights and pendulums, which were then unknown in Europe.

It is not an improbable supposition that many arts which were brought by the Arabs into Europe came from China. The art of paper-making was introduced by them in the eleventh century, but the Chinese had been for ages in possession of it. Artillery, the art of block-printing, pendulum-clocks, the mariners' compass, were certainly known to the Chinese long before any sign of their existence appeared in Europe; and as they all successively made their appearance during or soon after this commercial intercourse, it is a probable conjecture that these arts also came from China.

The work of Masoudi, who died at Cairo in 957, that of Ebn Haukal, and the great work of Abulfeda, who twice visited China towards the end of the thirteenth century, enable us to ascertain the amount of information which the Arabs possessed about China. Besides Canfu, described by the Arabian travellers of Renaudot, it seems that other cities in [illegible] were visited by the Arabian merchants; but the Arabian geographers appear to have been puzzled by the Chinese names, and it is not always easy to discover to what town their descriptions refer. We can collect, however, that the northern provinces were called Cathay or Tchar Cathar—that is, "Cathay that produces tea;" the capital was Cambalu. The southern provinces were called Tchin or Sin. Cathay is the only name by which China was for a long time known to Europeans. Under the name of Sin, given to the southern districts, the Arabian geographers frequently comprehended all the country to the Ganges; and the same name, Sin, is applied by Ptolemy to a great country of India beyond the Ganges.

The conquests of Genghis Khan and his successors, and the encroachments of the Tartars upon the eastern frontiers of Europe, induced the Pope to send two embassies to the Tartarian camps. The first of these, headed by Ascelin, a Franciscan monk, went only a little way beyond the northern frontier of Persia: but the second, under John de Plano Carpini, of the order of Friars Preachers, which made its journey through Poland and northern Europe, reached the court of the Khan, where they found ambassadors from Persia, India, Russia, and China. Carpini was much struck with "a wonderful brave tent, all of red purple, given by the Kythayans" (Chinese).

He obtained correct information as to what part of China the Tartars had then subjugated, and he is in the main correct in the brief description of the Chinese people and the country which they inhabit. "They seem to be," says Carpini, "a mild and humanized people: they wear no beard, and in their face rather resemble the Mongols, though their face is not so broad. They have a peculiar language of their own; and better artisans in all sorts of works cannot be found in the world. Their country abounds in corn, wine, gold, silver, and silks—and, in short, in everything desirable for life." This journey was made in 1246-7. A few years after, while Louis IX. of France was engaged in his crusade against the Saracens in Syria, the Tartars, who were simultaneously attacking the same power on the side of Persia, made overtures to the French monarch, who was induced to credit the report that the Tartar khan and his grandees had for three years professed the Christian faith, and that the Tartars generally were well disposed to that religion. On this assurance the devout French king despatched two ambassadors. One of these, the monk Rubruquis, set out from Constantinople in 1253, and, crossing the Black Sea to the Crimea, thence penetrated through the heart of Asia to Karakorum, at that time the capital of the Khan of the Tartars. This was not far from the confines of China, and the city abounded with Chinese. Karakorum consisted only of two great streets, "one called of the Saracens, where they held the markets and fair, and where many foreign merchants went to traffic. The other street is called of the Cathayans, where all the artisans reside." He had an opportunity of admiring the beautifully dyed scarlet robes of the Chinese, but added little more than the following particulars to what was previously known:—"The common money in Catay (China) is made of cotton-paper about as large as the hand, on which they imprint certain lines and marks, made like the seal of the khan. They write with a pencil made like that of our painters. Each of their characters is a word."

Meanwhile, in addition to these missions, commerce, which was now reviving in Europe, sent forth its adventurous explorers. The men who added incomparably more to our knowledge of Cathay and other eastern countries than all the ambassadors or missionaries who preceded them, were the family of the Poli, of Venice. In the year 1250 Maffeo and Nicolo Polo, two brothers, went to Constantinople, where they were informed a very advantageous commercial speculation might be made with the Tartars on the Volga. Accordingly, they boldly commenced that long journey with a valuable property in jewels and trinkets. At the court of Barka, a great Tartar chief, they made very satisfactory sales of their goods; but when they would have returned, they found the road by which they had come impracticable on account of a war that had broken out between the Eastern Tartars and those with whom they had been trading. They therefore proceeded in another direction, and met with an ambassador from Kublai, the great khan. The Tartar envoy, who was an enlightened and inquisitive person, was so much delighted with the society of the Venetian merchants that he fancied their company would be equally agreeable to his master. Ultimately he invited them to proceed to the east with him, and accordingly the Poli accompanied the ambassador to the remotest extremity of the continent of Asia. At the end of their long journey they were kindly received by Kublai Khan, who. after many conversations with them, was induced to open a communication with the Pope, who was to be requested to send him 100 learned men to teach Christianity and "the seven sciences" in his dominions.

These proposals were to be made through the medium of the Poli themselves, and a nobleman of Catay, as ambassador of the khan, who was to accompany them. This Catayan, who was named Khogotal, unfortunately fell sick on the road, and they were obliged to leave him behind. The Poli did not reach the coast of Syria until three years after their departure from the court of Kublai.

When they entered Christendom they found the papal chair was vacant; but, after some time, Gregory X. was elected, who furnished them with Christian instructors—reducing the number, however, from 100 to only two individuals, who were reputed men of letters and science, as well as good theologians. The Pope added some presents to the khan, and proper diplomatic credentials. Marco Polo, the son of Maffeo, who had been born at Venice shortly after his father's and uncle's first departure for the East, and who was now 19, accompanied them During 24 years that Marco, who had admirable talents for observation, was absent from his country, he saw a great part of the Asiatic continent. In the suite of the great khan, who was now master of the empire, and who often employed him in important missions, Marco Polo penetrated into the interior of Catay, and resided at or visited Cambalu, the capital, Nankin, and many of the most famous cities in both northern and southern China. If we look at the meagre information regarding this extraordinary country that existed before his days, and then at his copious and minute accounts, we may almost consider Marco Polo as its discoverer. When that work appeared, it was read with wonder and delight, and implicit belief was given even to the incorrect parts of its contents, which consisted almost solely of what the traveller reported on hearsay. This too general credulity was, however, soon succeeded by too general an unbelief: the manuscript copies of his travels (for printing was not then in use), which were dispersed through Europe, became gradually defective, and more and more corrupted from the original text—in short, it became the fashion to consider Marco Polo a liar, until the intercourse of modern travellers ascertained that his Cathay was their China, and their writings confirmed the accuracy of the traduced Venetian's account of that country. There is nothing astonishing in the incredulity which was felt by Polo's contemporaries. The Tartars, by their devastations and cruelty, came to be considered through Europe as a species of savages, with scarcely even the appearance of men: and a narrative which described an emperor of this nation as having a court, with great officers and regular tribunals, and as being ruler of an empire larger than all Europe, and much more civilised, could not then appear entitled to much confidence.

It is only very recently that full justice has been done to M. Polo. In 1818 Mr. Marsden, after many years of labour and research, produced an edition of Marco Polo's Travels, illustrated with an immense collection of notes, taken from every traveller, ancient and modern, that has visited China, or obtained descriptions of it in its neighbourhood. The corrupted passages of the text were also restored. This excellent edition has established the fact that, in all things (wonderful as they may appear) where the Venetian speaks from his own observation, he is to be believed, as well as that the Chinese of our times differ very little from the Catayans of 600 years ago.

About 13 years after the return of M. Polo, a friar named Oderic de Porteneau was seized "with an unbounded desire" to visit the remote and infidel countries of the East. He set off on his own account, and, after long and dangerous wanderings, penetrated into Southern China, and visited Cambalu. His account of the Tartar government, which still existed, closely agrees with that of M. Polo.

Oderic was treated with more scepticism even than the Venetian, from whom, it was said, he merely copied: yet he relates two facts not mentioned by M. Polo or any preceding traveller, and as these have been most amply confirmed since, they may tend to relieve the doubts which have always existed as to whether he had really been in China. "It is accounted a great grace," says he, "for the men of that country to have long nails upon their fingers, which nails they may fold about their hands; but the grace and beauty of their women is to have small and slender feet, and therefore the mothers, when the daughters are young, do bind up their feet that they may not grow great."

Except these curious facts, Oderic added little to European knowledge of China.

About the commencement of the fourteenth century, Pope Clement V. began to entertain an idea that the Holy Land might be recovered by the assistance of the Tartars, and he therefore became anxious to get information concerning that remote people. Having been informed that there was in Cyprus an Armenian monk, named Haitho, a relative of the King of Armenia, who was in possession of much information concerning the history and geography of those regions, the pope had him brought to France, and engaged him to communicate his information, which was written down by Nicolo di Falcon in French, from Haitho's dictation in Armenian. This information is stated to have been derived from Mogul documents, from the communications of the King of Armenia, who had been at the head-quarters of Mangu Khan, and from the personal knowledge of Haitho himself. The account, which comprehends the geography of the principal states of Asia, is given in an abridged form, in the third part of Purchas's 'Pilgrims.' The following is the substance of the statement, so far as regards China:—

"The kingdom of Cathay is the greatest that is to be found in the world, and is replenished with people and infinite riches; being situated on the shore of the ocean sea, in which are so many islands that their number can no ways be known; for never was there a man that could say he had seen all those islands. But those of them which have been frequented have been found to abound in innumerable wealth and treasures; and that which is there most esteemed and dearest sold is oil of olives, which the kings and commanders there cause to be kept with great diligence, as a sovereign .medicinable thing. And, moreover, in the kingdom of Cathay are many marvellous and monstrous things, which I forbear to mention. The inhabitants of these parts are exceeding wise and subtile, replenished with all kinds of skill and cunning, insomuch that they disdain the endeavours of all other nations in all kinds of arts and sciences; saying, that they only see with two eyes, the Latins with but one eye, and that all other nations are blind. And albeit they are exceedingly sharp-sighted in the exercise of all bodily works and labours, yet is there not among the many knowledge of spiritual things. The men of that country are not bold or courageous, but more fearful of death than befitteth such as bear arms: yet are they very ingenious, and have oftener had victory of their enemies by sea than by land. The money used in those parts is of square pieces of paper, signed with the king's sign, according to which sign or mark the pieces are of greater or smaller value: and if they begin by age to be wasted or worn out, he that bringeth them to the king's court shall have new for them. Of gold and other metals they make vessels and other ornaments. Of this kingdom of Cathay it is said that it is in the beginning of the world, because the head thereof is in the east, and there is not known any other nation to inhabit more easterly thereabouts: on the west it confineth on the kingdom of Tarsa, on the north with the desert of Belgian, and on the south side are the islands of the ocean." *

In the year 1335, Pegoletti, an Italian, wrote a system of commercial geography, which contains an account of the route taken by the merchants who brought the produce and manufactures of China to Azof. The whole journey occupied 300 days. Each merchant generally carried with him silver and goods to the value of about 25,000 gold ducats; and the expense of the whole journey was from 300 to 350 ducats.

The Persian historian Mirkhond gives some account of an embassy which was sent to Pekin, in the year 1420, by the son of Timour Beg. Their route was through Samarcand to Cathay. On arriving in China a circumstance occurred which seems quite in the Chinese style of proceeding with regard to embassies. Secretaries took down in writing the names of the ambassadors and the number of their suite. This was repeated at another place, and the ambassadors were then earnestly requested to state the precise number of their servants, and the merchants who were with them. The merchants, having been put down by them under the description of servants, were afterwards obliged to perform the particular duties of the several offices which had been mentioned. Tin is enumerated among the presents which the ambassadors brought for the emperor.

Nicolo di Conti, a Venetian, having spent about 25 years in travelling through Asia, returned to Europe about the year 1444. Having abjured the Christian faith to save his life, he no sooner returned than he had recourse to the Pope for absolution. Eugenius IV., the then Pope, prescribed as a penance that he should relate an account of his travels to his secretary, Poggio, who wrote it down in Latin. Purchas, as usual, has used his discretion with the narrative, only retaining such information as it appeared to him that previous travellers had not anticipated.

Ramusio, in his collection of Travels, published about the middle of the sixteenth century, gives some information which he obtained from a Persian merchant of Ghilan, who had come to Venice with rhubarb. This person had gone with a caravan, which went from the Persian provinces on the Caspian to the regions of Cathay. Travelling by way of Samarcand, Cashgar, and Turfan, they arrived, in about six months, at a town called Camliai, near the frontier, between the Mohammedans and Idolaters. Here the commercial business was transacted, as none but ambassadors were allowed to proceed further towards China; and it is added that the Chinese were, on the other hand, forbidden to leave their own country, and go through the world on mercantile undertakings.

These journeys were made previous to the discovery of the passage by the Cape of Good Hope, which ultimately effected so great an alteration in the relations between Europe and the East. After this discovery had been made through the skill and enterprise of the Portuguese, journeys to China by land were gradually abandoned.

PORTUGUESE.

The Portuguese were the first Europeans who in modern times have landed in China. The fame of this empire reached them at Malacca, where they had established themselves; but neither the Portuguese nor other Europeans who received intelligence of their expedition to China were aware for a long time that this was the same country as the Cathay of Marco Polo and the earlier travellers.

In August, 1516, Albuquerque sent Rafaelle Perestrillo to Canton, in the junk of a native merchant, to collect intelligence. Perestrillo made the voyage, and in about ten months returned to Malacca, when his report induced Fernando Perez d'Andrada (who was hesitating whether to go to China or Bengal) to go to China with a squadron of eight ships. He arrived in Canton roads on the 15th of August, 1517. A large Chinese flotilla made its appearance, hovered round him, and fired some shots over his head. He kept still playing music and making signs of peace. The Chinese would not parley; on which he sailed forward without opposition to the island of Beniaga (*Anglicè* Bankshall), and anchored off the port of Tamou (our Whampoa). Here he found Duarte Coelho, who, in coming out of the river of Siam, had been roughly handled by a fleet of Chinese pirates. By Coelho's advice Andrada sent a messenger to the governor of Canton, stating that he came from the King of Portugal with friendly intentions, and that he wished to send an ambassador to the Chinese Emperor. But the governor could not grant him permission to proceed; on which Fernando d'Andrada, losing patience, resolved to sail up to the harbour of Canton. A sudden and violent storm, however, drove him back and damaged his ships. The Chinese refused timber, and everything else necessary for the repairs of his vessels, but D'Andrada, by skilfully using the materials that he had with him, succeeded in making his ships seaworthy, and with his two best vessels sailed to Nanto, where he wrung from a great mandarin permission to enter the harbour of Canton, with pilots to conduct him. His arrival there astonished the authorities, who were, however, civil, only telling D'Andrada that no business could be done until three great mandarins, who were then absent, should return to Canton. The Portuguese had good grounds for believing that this was only a feint of the Chinese to gain time, and an apparent occasion for dazzling the new-comers with a display of their magnificence. The great mandarins came singly, in three successive days—a day being occupied by the pageantries of the arrival of each—during which the waters of the river could not be seen for the multitude of boats decorated with banners and streamers; and the walls of the city, and the tall masts erected within it, were covered with flags of silk, and so large "that they might have served as sails to ships of war."

D'Andrada was now invited to an audience, but he sent his factor, who stated that they had come for the purpose of commerce, and that they had brought an ambassador with letters, and a present from the King of Portugal, and more directly from Albuquerque, his great general, "who had learned that the King of China was the greatest sovereign in all the East, and the people of China the wisest and most prudent." In reply, the mandarins courteously requested that the ambassador would come on shore at Canton, where he would have all his wants supplied; but he must wait until the emperor's pleasure was known.

The suddenly-created ambassador, who landed in consequence of this message, was an apothecary, an intelligent man, of great application to business, and of good address; his name was Thomé Pires.

Being prevented, by the lateness of the season, from proceeding to the Loo-choo, to which his attention was called by finding at Canton three ships from those places, Fernando d'Andrada returned to Malacca soon after he had landed his ambassador. He left a very favourable impression among the Chinese, who made no objection to Portuguese merchants coming to the port of Tamou, and trading there.

Thomé Pires was subjected to tedious delays at Canton, the government sending no less than three successive commissions to make the most scrupulous inquiries into his intentions and character. At last he was allowed to proceed, and he began his journey "in a splendid bark, with silken flags, and an awning also of silk to screen him from the weather." It took him four months to reach Nankin, and when there he was summoned to attend the emperor at Pekin. His Majesty being at the time busy in punishing a conspiracy, Pires was left at the latter city a considerable time before any notice was taken of him. He never obtained an audience, but he was at length permitted to send his letters, which were three: one from the King of Portugal, one from Fernando d'Andrada, and one from the governor of Canton. The style of the two first was entirely [illegible] by the timid hypocrites who acted as interpreters, and who unblushingly read that the King of the Frangi had sent to the Emperor of China, the Lord of the World, to acknowledge himself his vassal, and to solicit his seal, which is affixed in sign of subjection to all the writings of the kings who are tributary to China. The governor of Canton's letter was not altogether unfavourable to the Portuguese; but there was a wide discrepancy between it and the false versions of the other letters. He informed his Majesty that they desired permission to establish a factory at Canton; that they were already masters of Malacca, and very powerful in the Indian seas; and moreover, that they were persons of ambitious pretensions and difficult to satisfy. This threw the court into great perplexity, and led them to suspect that Pires was a spy. Unfortunately at the same time other letters arrived in Chinese, which described the Portuguese as restless conquerors, and as behaving with unbearable insolence at Canton. They were also accused of sending ships to survey the coasts of the Celestial Empire. Pires in vain persevered in demanding an audience, and at this crisis the emperor fell sick and died. The great council of government urged his successor to put Pires to death as a spy; but, after inquiring into the affair, the new king sent the unlucky envoy back to Canton, where he was to be treated as he merited, after mature examination of his proceedings and a further experience of his character. By the time the Portuguese ambassador arrived in Canton everything Portuguese was odious; open war had broken out between his countrymen and the Chinese, and he was thrown into prison, where he soon perished.

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* See Purchas, who says he had taken the liberty of omitting from Haitho's account the information which Polo and other travellers had

A few words will explain how affairs had taken this unfortunate turn. Fernando d'Andrada, who had landed the ambassador, did not return; but the year after his brother Simon d'Andrada, a man of a very different character, and whom the Portuguese themselves admit to have been "pompous and glorious, and doing all things with great majesty," took the command of five ships from Malacca to China.

This man, who appears to have been very unfit to take the charge of such an expedition, was soon offended at the restrictions which the government imposed on all foreign commerce. He took forcible possession of the little island of Tamor, in the Canton river, and there acted in the most extravagant manner, even putting the natives to death without any provocation. The Chinese soon expelled him from the island, and he was on the point of being captured; but he succeeded in making his escape, and in his flight, falling in with some Chinese boats, he shot several of their crew. On the news of this fresh outrage being received at Canton, the Portuguese prisoners were put to death; and when the envoy returned to Canton from Pekin, he and all his retinue were thrown into prison and murdered. In the following season four Portuguese ships, arriving at Canton in apparent ignorance of the proceedings of the former year, were immediately attacked. They lost a great number of men, and many were taken prisoners by the Chinese and put to death. These disasters seem, for some time, to have deterred the Portuguese from a renewal of their attempts; they had found the Chinese very superior to the nations with whom they had been in the habit of holding intercourse, and they were unwilling to descend to the character of suitors. But their avarice at length conquered their pride; they made many concessions, and were allowed to carry on trade at the little island of Sanshan, many miles below Canton.

About the same time they were permitted to establish themselves at Ningpo (called by them Liampo) and at Chincheu, but in consequence of their behaviour they were successively expelled from these towns.

Whilst they were engaged in the trade at Sanshan, the neighbourhood of Canton was infested by pirates, whose resort were the small islands near the entrance of the river. From [illegible] retreats a ferocious horde of robbers could securely watch [illegible] passage of their rich neighbours, who were no match for these bold plunderers. Continued success produced increasing enterprise: the pirates established themselves in the island of Macao, and followed the Chinese vessels to their own ports, until at last they could not venture out from shore. The pride of the Chinese government was lowered, and they implored the aid of the superior discipline of the Portuguese. The Portuguese readily assisted the Chinese, and in a short time completely cleared the seas of the pirates. They received as the reward of their services the exclusive right to trade with China for many years, the possession of the island of Macao, which they still retain, and many privileges of which they have since been deprived. This seems the best authenticated account of the circumstance which put the Portuguese in possession of Macao; but there are other accounts which state that the Portuguese only received permission to erect temporary sheds, in which to dry some goods; but that they built substantial buildings, and by bribes and intimidation induced the mandarins to connive at the encroachment. Their possession of Macao is at present only nominal: Chinese soldiers mount guard at the landing-place, Chinese edicts control the commands of the Portuguese authorities, and Chinese jealousy has even restricted their motions to very narrow limits. The troops of their garrison are chiefly blacks, and even the officers are in most instances feeble half-castes.

The proverbial mendacity of Fernand Mendez Pinto must not exclude him from the number of those who have contributed to our knowledge of China. The work of Pinto, although generally considered as a tissue of falsehoods, is regarded with respect by the Portuguese, and numbered among the classics of the nation. The fault of Pinto is not falsehood, but exaggeration, and this is partly explained by the fact that the greater part of his Travels were written from memory after his return to Portugal. He manifestly used little discretion in receiving hearsay reports; and his ignorance on many subjects has often led him into mistakes. It often happens that his names of places, which he gives in tracing his route, cannot be recognised, but the resemblance of others to the true names precludes the supposition that the details were invented. There are also insuperable difficulties in his geographical positions, but not greater than we might expect to find in the work of an illiterate wanderer. It has been mentioned, as a proof of his want of veracity, that, although ignorant of the Chinese language, he reports conversations with people, which are sometimes of considerable length. But when these conversations are examined, they are found to be in the usual style of the Chinese, and replete with their usual metaphors; and there is no difficulty in supposing the intervention of interpreters, any more than in many other cases where travellers, who have been ignorant of the language of a country, report what the natives said or told them. That which he says of the Chinese and China has in general been confirmed by later writers; and his errors appear to have been mistakes which a traveller circumstanced as he was might easily make. There is no doubt that Pinto travelled in the country; and his observations have an air of truth and simplicity about them quite in keeping with his personal character. We have spoken particularly with reference to his account of China, although that forms only a portion of his Travels.

He was born about the year 1510, of very obscure parents. He was one of the many adventurers who flocked to India from all parts of Portugal, in the hope of making their fortunes. He arrived at Dio in 1537, and after various adventures he entered the service of Pedro de Faria, the captain-general of Malacca, who employed him as one of the emissaries whom the Portuguese were in the habit of sending to the neighbouring provinces to examine their forces and engage their friendship. These commissions were always given to clever and enterprising men. Pedro afterwards sent him to Patau, upon the coast of Siam, on a trading speculation. He there met with Antonio de Faria, a relative of Pedro, who was about to send some merchandise to Lugor. Pinto embarked his employer's goods in the same vessel, which was attacked and plundered at the entrance of the river of Lugor by a Chinese pirate. Pinto contrived, with only one other person, to escape, and repaired to Antonio de Faria, who, not having paid for the goods of which he was thus deprived, was highly exasperated, and vowed revenge. He armed a junk with fifty-five Portuguese, of whom Pinto was one, and set out with a determination to retaliate on the pirates. The end of this was that Faria became a pirate himself, plundering all who came in his way. At last he undertook an expedition to the Gulf of Pekin to plunder a rich island in which the Chinese princes were interred. The account of this island, and of the voyage to it, is the most difficult part of Pinto's narrative, and has tended, more than anything that he says about China, to bring his account into suspicion. Through mismanagement their design became known after they had made one landing on the island, and measures were taken to frustrate it. The booty was comparatively trifling, and in their return they were wrecked on that part of the coast of China which makes the nearest approach to Corea. Pinto, and the rest who escaped, were made prisoners by the Chinese, after having for some time wandered about as mendicants. They were ultimately brought to trial, and on their acquittal were taken to the isle of Sanshan, and there left to shift for themselves. They ultimately found their way to Malacca. Pinto returned to Lisbon in 1558.

The following extract shows his general impression concerning China, and particularly Pekin:—

"I have, in one-and-twenty years' unfortunate travels, seen great part of Asia, and the riches of Europe; but if my testimony be worthy credit, all together is not comparable to China alone: such are the endowments of nature in a wholesome air, soil, rivers, and seas, with their policy, justice, riches, and state, that they obscure all the lustres of other parts. Yet such is their bestial and devilish idolatry that I cannot but grieve at their ingratitude."

Speaking of Pekin he says—

"I fear to particularize all that I saw in this city, lest the readers should doubt or mutter at the rarity, measuring things by that little they have seen, and judging by their own curtailed conceits of those things which mine eyes have seen. But high capacities, haughty spirits, and large understandings, that measure not other states by the misery and meanness before their eyes, will perhaps be willing to hear things so rare; which I hold the more pardonable in others to doubt of, forasmuch as I verily confess that I myself which beheld them with mine eyes am often amazed when with myself I recount the greatness of Pequim, in the admirable state of that gentile king, in the splendour of the chaens of justice, and of the anchaeys of government, in the terror and dread caused in all by their officers, in the sumptuousness of their houses and temples of their idols, and of all the rest therein."

About the year 1557 Gaspar de Cruz, a Dominican friar, being at Malacca, was induced to proceed to Cambodia for the purpose of preaching the Gospel. He remained there about a year, and, disappointed in his expectations of success, resolved to visit China. He accordingly proceeded by sea to Canton. In the river of Canton there is an isle containing a Chinese monastery, in which he saw "an oratory high from the ground, very well made, with certain gilt steps before it, made of carved work. In this was a woman, very well made, with a child about her neck, and it had a lamp burning before it." Honest Gaspar, suspecting that there was "some show of Christianity" in this, applied to some laymen, and even to the idol priests that happened to be there, for information concerning this image, but was unable to obtain any satisfactory explanation; wherefore he concludes—"It might well be the image of our Lady, made by the ancient Christians, that Saint Thomas left there, or by their occasion made," but the history and purpose of which were then forgotten. He admits, however, that it might be a heathen image after all.

Gaspar appears to have laboured for the conversion of the Chinese with considerable zeal. One day he went into a temple, and approached an altar where some stones were set up, which the natives worshipped. Trusting to the little estimation in which they held their gods, and believing them to be men who would be satisfied with reason, he went up and threw the stones down upon the ground. At this they ran towards him fiercely, but he advanced to meet them, and with a smile asked them if they were not themselves better than the stones that they worshipped, and how they, being so noble, could degrade themselves to the worship of things so vile. They seemed struck by his words, and went out of the temple with him, leaving the stones upon the ground. Gaspar concludes that it would not be difficult to bring the Chinese over to Christianity, the rather as there would not, as in India, be any prejudices about meat in the way of their conversion; and as of all meats the Chinese esteem pork the most, it would be almost impossible for them to become Mohammedans. Nevertheless he states with great distinctness the obstacles arising from the restrictive policy of the Chinese. He says the first was that they would not permit the introduction of any novelties into the country, so that, when any new thing happens to get in, the officers of government exert themselves to repress it. The second is that no foreigner can enter China without leave; at Canton his stay is limited, and when the time has expired he must go.

De Cruz says that he saw no other way in which Christian ministers could act with any freedom in China than by an embassy being sent with presents from the King of Portugal to the Emperor of China, which might probably obtain for unarmed religious men permission to go about the country, particularly as opportunities would be thus afforded of explaining to the emperor that the precepts of Christianity would not tend to subvert, but rather to establish his government. It was probably with the view of stimulating Sebastian King of Portugal to send such an embassy that Gaspar prepared and addressed to that king his treatise concerning China, of which an abstract is given in 'Purchas his Pilgrimes.'

Gaspar de Cruz received a considerable portion of his information from Galeotto Perera, "a gentleman of good credit," who had, with other Portuguese, been a prisoner in China, in 1550. Perera himself published an account of China, which contains some interesting information, particularly concerning the administration of justice—a subject with which this author had but too much occasion to be acquainted. He makes an observation which recent experience has confirmed—that the aversion of the nation to novelties is not a characteristic of the people, but of the government. Perera says, "When we lay in prison at Fuquieo, we came many times abroad, and were brought to the palaces of noblemen, to be seen of them and their wives, for that they had never seen any Portugal before. Many things they asked us of our country, and our fashions, and did write everything, for they be curious in novelties above measure."

Benedict Goez, a Portuguese Jesuit, attempted to enter China by a route which is in part coincident with that traced by Ptolemy, and which has not been attempted in modern times by any other person. He left Agra in the beginning of 1603, and proceeded by Lahore to Cabul, and from Cabul by Balkh and Badakshan, to Cashgar. At Cashgar the caravans from India met those which came from China; but so difficult was it to proceed, that, though Goez obtained the protection of the king of Cashgar, he was not able to reach Sochieu, the first city within the wall of China, till the end of the year 1605; and at Sochieu he closed his life, in March 1607, without having obtained permission to join his brother missionaries at Pekin.

"This undertaking of Goez," to use the language of Dr. Vincent, "is one of the most meritorious, and his account one of the most interesting, that is extant; for it is a regular journal kept of his progress, specifying every country and every place through which he passed." Bergeron estimates the number of days which Goez travelled as 390, besides some that cannot be ascertained, and exclusive of delays at various stations. He informs us that Sochieu was the same sort of mart for the caravans of Cashgar that Kiakhta is for the Russians; that it was inhabited half by Chinese and half by Mohammedans;

that the merchants of Cashgar were admitted into China and permitted to visit Pekin only under colour of an embassy; that they brought presents, which the Chinese called "tribute," every sixth year; that from the time they passed the frontier the emperor bore the charges of the embassy; and that the articles of commerce brought from Cashgar were beautiful slabs of jasper, or variegated marble, and something that appears to be agate.

Goez conducted himself throughout his arduous undertaking with a degree of courage, perseverance, patience, and address, which entitles him to a distinguished place among travellers. All his companions had deserted him, except an Armenian boy of the name of Isaac, who after the death of Goez was so fortunate as to reach Pekin, from whence he was sent to Macao, where he obtained a passage to the Portuguese settlements in Malabar. He there gave the same account of his master's expedition and death which he had previously given to the missionaries at Pekin; and particularly mentioned the surprise of Goez at finding that Cathay was China, and Cambalu Pekin.*

The discovery of this vast empire, and the early proceedings of the Portuguese in it, excited a great sensation in Europe, particularly at a period remarkable for maritime enterprise. A manuscript report without date, but the author of which was probably among the first who identified China with Cathay, was presented to the Venetian Senate. It gives long details concerning the situation, extent, fertility, and wealth of the Chinese empire, collected from the old Venetian traveller Marco Polo, from Haiton, and a "Cavaliere Inglese" (Mandeville). Another short account was published in Spain† not many years after the first expedition of D'Andrada. The anonymous author says he has derived through the way of Mexico his "strange and wonderful news lately come from the great kingdom of China, which adjoineth unto the East Indies;" and he goes on to say "that a credible person doth declare" that the Spaniards from certain islands (the Philippines) had sailed 40 leagues along the Chinese coast, had landed, and in some places fought with the natives. That ambassadors they despatched had been permitted to penetrate to a large inland city surrounded by a double wall and governed by a viceroy. He then describes the costume of the Chinese, the small feet of the women, and the long nails of the men. He asserts that specimens of Chinese dress and rich pieces of cloths of gold, silk, and purple had been brought to Mexico, where the Spanish viceroy was so elated with what he saw and heard, that he was about preparing an expedition of a thousand men to conquer China. "The citizens," it is added, "are moved with desire to go thither for love of the great quantity of gold."

This expedition from Mexico, however, never took place; and it was neither as conquerors nor traders, but accidentally as valuable friends, and then as propagators of Christianity, that the Spaniards came in contact with the Chinese.

A Chinese pirate, by name Limahon, had long devastated the coasts of the empire and swept the neihgbouring seas in defiance of the mandarin fleets. In an evil hour he ventured as far as the Philippine Islands, which had been for some time occupied by the Spaniards, who now encountered him there with their ships, defeated him, and drove him up a river. They were keeping him there, in a close blockade, from which escape seemed impossible, when a Chinese squadron, commanded by two high Mandarins, arrived at the islands. The gratitude of the Chinese commanders was so great that they offered anything in their power: the only favour the Spaniards asked was that they would convey into China two monks of the Order of St. Augustine, who had lately come from Mexico. The mandarins complied, and in June, 1575, took the missionaries and two soldiers who attended them on board their war-junks. The monks soon after arrived at a Chinese port in the province of Fokien, where they were not permitted to land until a written order was obtained from the governor. With this order there came instructions as to the manner in which they were to be supplied with everything at the expense of the Chinese government—even every dish to be served at their table was minutely specified. In a few days they reached the great city of Chincheu, where they passed a magnificent stone bridge 800 paces in length, and were astonished at the countless multitudes who collected to look at them. Here they were first told that an audience could not be granted unless they knelt down and remained kneeling all the time that it lasted. The pride of the Castilians revolted at this degradation; but the devotedness to their object and the humility of the monks triumphed over their national feelings and the scruples of the two soldiers, who after a warm discussion consented to follow the example of their spiritual conductors. The monks and the soldiers kneeled in the Hall of Audience, and the interview went off in an amicable manner and with the usual interchange of presents.

It soon however appeared that the two mandarins who had been to the Philippine Islands and expressed such gratitude to the Spaniards claimed the whole of the merit of having beaten the pirate Limahon. The viceroy sent for the Spanish soldiers and examined them as to what had taken place, but seemed more inclined to believe the mandarins than their true statements. Both monks and soldiers were well entertained, but were told that to obtain permission for penetrating into the country, or establishing themselves, they must go to the Viceroy of Outcheou.

To the city of Outcheou accordingly they went, and, prostrating themselves as before, were received with great pomp by the viceroy, who, however, abruptly dismissed them when he heard from their own lips that they had not come on a royal mission. They were told they might remain where they were until the emperor's pleasure regarding them could be known. The viceroy's contempt of them as not being ambassadors of a king did not prevent his giving them a magnificent dinner, at which, among other things, the monks were entertained with a Chinese comedy.

A long time elapsed, and no answer came from the court. The monks employed the interval in observing the city and the people, and in making purchases of books. These proceedings immediately excited suspicion: the viceroy ordered that they should not quit their lodging, and that every Chinese who carried anything to them for sale should be bambooed. Their next misfortune was that the two mandarins who had brought them from the Philippine Islands quarrelled among themselves as to their relative shares of honour in the defeat of the pirates, and gave in reports in which each contradicted the other and both gave the lie to the missionaries. This induced the viceroy to doubt whether the whole story were not a fabrication made to obtain rewards and favours when none were done. He summoned a provincial council which (whatever they did with the mandarins) determined that the monks should immediately quit China. The politeness with which this decision was announced to them, did not conceal from the Spaniards that it was peremptory. Accordingly, after partaking of an entertainment more costly than any they had yet received, they took their departure for the sea-coast, to which they were escorted with great state.

They arrived at Manilla in October, 1577; and thus ended the attempted intercourse and first mission of the Spaniards, which only confirmed the notions already current in the world of the civilization, the extent, the immense population, and size of the cities, canals, and other public works of the Chinese empire.

DUTCH.

The Portuguese had been about a century in quiet possession of the trade to China before any other European nation seemed disposed to dispute that advantage with them. But early in the seventeenth century the Dutch, who had begun to rival them in the commerce of India, determined to make an attempt to share in the China trade also. Accordingly, in

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* Vincent, vol. iii., p. 593—594. Purchas's Pilgrims, vol. ii., p. 319—

† This pamphlet, only of a few pages, exists in an old English translation, [illegible] by Mr. Murray, vol. iii. of Historical Account of Discoveries and Travels in Asia.

1601 they sent three ships with an ambassador to China. The Chinese were alarmed at the appearance of so singular a people, with "blue eyes, red hair, and feet one cubit and two-tenths long." The ambassador, a young man who afterwards became governor of Batavia, fully maintained the Dutch character for gravity. On his arrival at Canton he was courteously received, and a mandarin of high rank was deputed to treat with him. They met early in the day; and, after the customary ceremonies, sat down opposite each other in the hall of audience, each expecting the other to begin the conference. They waited, in this manner, with incredible patience and gravity: not a word was spoken by either party, nor did either manifest any sign of impatience. At length, when the sun had set, they both arose as if by consent, went again through all the necessary ceremonials, and separated without a syllable being uttered by either party. Negotiations were thus protracted until the aspersions of the Portuguese had inspired the Chinese with much suspicion of their new visitors; and it having been also ascertained that there was no record that so strange a people had ever traded to the Celestial Empire at a previous period, all dealings with them were civilly declined.

For many years the Dutch endeavoured to open a trade, but the utmost they succeeded in obtaining was an occasional cargo of Chinese goods from the Portuguese at Macao. In 1622 the Dutch, wearied with such a peddling commerce, resolved to obtain by force what they were unable to do by negotiation. Accordingly, a fleet was fitted out and placed under the command of Admiral Keizerzoon, who sailed for Macao, and landed there with 800 men. The Portuguese, however, having armed their slaves, succeeded in repulsing the invaders, who then repaired to the Pehou islands, situated between Formosa and the mainland, and, after much bloodshed, succeeded in forming a settlement upon one of them. They compelled the resident Chinese to assist them in building a town and fort, and much annoyed the nation in its trade. The Dutch are said to have so severely treated the persons whom they employed in building, that out of 1500 Chinese 1300 died of ill usage or starvation.

When in firm possession of the island, they again endeavoured to open a friendly intercourse with China; but the government decidedly refused, alleging that they would never treat with persons who kept possession of any part of the imperial territories, and informing them that, if they would retire to Formosa, which was then out of the Chinese dominion, they would treat with them. A long negotiation followed, in which bad faith was exhibited on both sides. The Chinese are accused of sending to the Dutch presents of poisoned meat, and of poisoning their wells and fountains; and the Dutch are said to have induced many Chinese vessels by friendly demonstrations to approach them during the negotiations, and to have treacherously burned them. The Dutch at length agreed to retire to Formosa, where they built a town and fortress; and they would probably have retained possession of this fine island, but for the extraordinary revolution which placed a Tartar family on the throne of China.

In consequence of this revolution twelve provinces submitted to the Tartar emperor in 1644; but about 25,000 persons, who disliked the Tartar government, retired from them to Formosa, where they were encouraged to settle by the Dutch. The remaining three provinces situate towards the south, namely, Quangsee, Quangtung, and Fokien, being defended by a high range of mountains, were enabled to maintain their independence. They were governed by a brave Chinese, known to Europeans by the name of Coxinga, corrupted from Kok-sing, the name by which he was distinguished in his native province of Fokien, although his proper name was Chin-che-king. At the breaking out of the revolution this man, who was of very low origin, raised himself to great power by a concurrence of favourable circumstances, and, having bought some ships which he manned with bold seamen, he continued to annoy the coasts of China which had submitted to the Tartars, and occasioned such extensive distress that a government order was issued commanding all persons residing within nine miles of the coast to retire inland, and, all towns within the same limits to be destroyed. This strange policy, which could scarcely be acted upon in any other country, though productive of distress to the people, had the effect of preventing future depredations. Coxinga was successful on almost every occasion; but some temporary failure inducing him to think of following his countrymen who had settled in Formosa, he sent to the Dutch governor requesting leave to retire to the island with his followers: this permission was denied him, though he was invited to reside on the island provided he came without any attendants. The offer was indignantly refused by Coxinga, whose temporary difficulties were followed by more brilliant success; and he determined on measures of revenge, which his powerful navy soon afforded him ample means of effecting. His first step was to cut off all trade between Formosa and China. The Dutch, whose chief supplies were drawn from China, were much distressed by this measure, and the governor was so far humbled that he petitioned Coxinga to allow the trade to be renewed. Coxinga at first refused, but on a second petition from Formosa he withdrew his vessels from the neighbourhood of the island, and directed all his energies to the defence of his three provinces. So effectually did he accomplish this, that the emperor of China was forced to come to a compromise with him; and he was allowed to retain the provinces with the title of king or governor, on condition of doing homage to the emperor. When firmly settled in his government, his first measure was to endeavour to take possession of Formosa. Early in the year 1661 he caused to be circulated among his countrymen on the island a notice of his intentions. In March he landed on the island, took the Dutch town and some small forts, and summoned the governor of Fort Zealand to surrender, offering to all the Dutch full liberty to go away, or remain on the island with complete security to lives and properties. Encouraged by the presence of some ships from Batavia then in the road, the governor determined on resistance. Several bodies of soldiers landed from the ships, but were all cut to pieces by the troops of Coxinga. On the 5th of July the fortress was surrendered at discretion, and the garrison was allowed to depart without molestation. Coxinga then became king of Formosa, but his ambition was dissatisfied with the nominal subjection of his Chinese possessions to the Tartar emperor, and he imprudently declared himself independent. The emperor was glad to accept the assistance tendered by the Dutch, and Coxinga found all his courage unequal to cope with the discipline of his enemies. He fell in battle, and the Chinese provinces submitted quietly to the emperor. The crown of Formosa fell to the son of Coxinga, and, though more than once attacked by the Dutch, the island remained attached to his family until the year 1683, when Ching-ke-san, grandson of Coxinga, preferring the quiet of private life to the possession of a kingdom, or fearing perhaps his inability to resist his powerful enemies, surrendered his throne to the emperor of China, who treated him liberally, and allowed him to withdraw into honourable obscurity.

As a recompense for their assistance in the war with Coxinga, the Dutch obtained leave to build a house at Canton. This house soon became a fortress, and only a battery was wanting to make it an independent citadel. To supply this want it was necessary to bring in cannons without the knowledge of the Chinese, whose vigilance it was difficult to deceive. They at length adopted the expedient of enveloping their guns in great barrels, like water-casks, and some were successfully introduced in this manner. Their battery was nearly complete when the accidental bursting of a cask discovered the treachery. That same night their vessels were burned, and their fort demolished; all Dutchmen were banished, and trade with them was forbidden on pain of death. When the memory of this attempt was in some measure obliterated, reiterated petitions and valuable presents obtained a [illegible] tion of their trade, and in 1762 they were permitted to establish a regular factory at Canton.

When the emperor Kien-Loong had completed a reign of sixty years, he intended to resign his crown to his son, and it seems to have been hinted to the Europeans at Canton that embassies from their several nations to congratulate the old monarch on his long and happy reign would be well received. We know that an intimation of this sort was made to Lord Macartney on his departure from China. The English did *not* act upon it, but the Dutch government at Batavia appointed M. Titsingh and M. Van Braam to proceed to the Chinese court in the hope that better management would enable them to obtain those commercial advantages and redress of grievances which had been refused to the English ambassador. The Dutch ambassadors undertook the mission with the full intention of profiting by the mistakes into which they considered that Lord Macartney had fallen, and which had proved fatal to his success. Their subdued and humble deportment was accordingly a striking contrast to the dignified and manly bearing of the English embassy. The result was less encouraging than they had hoped. On the journey to Pekin they were treated with great neglect. Sometimes they were lodged in wretched hovels, without furniture and without cover; sometimes they were obliged to pass the night in the open air, when the temperature was below the freezing point; and it frequently happened that they got nothing to eat for twenty-four hours together. Van Braam himself very seriously informs us that the circumference of his body was diminished at least five inches in the journey from Canton to Pekin. Their readiness to perform the prostrations subjected them to the most annoying demands for the repetition of them. They were obliged, at least fifty times during the journey, to perform this degrading ceremony before the emperor's name painted on a piece of silk, and they were often roused from their sleep at night for the purpose. They allowed the public functionaries to trick them out of the only valuable articles among the presents intended for the emperor, and to substitute others of an inferior description. They also allowed their credentials to be examined and remodelled by the government officers at Canton.

On their arrival at Pekin they were lodged in a stable. Small presents of victuals were occasionally sent them from the emperor, and they were expected to acknowledge the favour by performing the nine-fold prostration on each occasion. After much evasion and delay the embassy was admitted to the imperial presence in January, 1795, and had to perform the *kotow*. The emperor spoke to Van Braam about his own great age, and said that no Hollander had ever before been admitted to his presence. They were then permitted to seat themselves on a carpet, where they were furnished with a cup of milk, and were favoured with some small presents, consisting of tobacco-pouches, scent-bottles, tea, and China-ware, which were received with the usual prostrations. They remained while a comedy was acted in the presence of the emperor; and on their return home they found fresh pork and sweetmeats had been sent from him in their absence. They were afterwards present at a grand entertainment given by the emperor at Yuen-ming-yuen. The dishes, of which Van Braam speaks with considerable disrespect, were served up in great abundance. When eating was over, the emperor drank a cup of shamshu (a sort of spirit distilled from the lees of rice-wine), and all the guests prostrated themselves before him. The emperor condescended to hand them a cup of this liquor himself; which set the Dutchmen again diligently to work at their prostrations, in the course of which Van Braam, who was very corpulent, lost his hat, upon which the old emperor laughed heartily. "Thus," says Van Braam, "I received a mark of distinction and predilection such as never ambassador was honoured with before. I confess," he continues, "that the recollection of my [illegible] from the cold in waiting so long in the morning very much softened by this incident."

Upon the whole, their humble endeavours to make themselves agreeable seem to have been good-naturedly received by the emperor, and they were allowed more opportunities of making themselves acquainted with the interior of the palace than have often been permitted to Europeans. But this was all that was gained by the mission. The Chinese chose to consider it as exclusively a mission of congratulation, and would pay no attention to those considerations for the benefit of trade, and applications for the redress of grievances, which the ambassador was prepared to submit. The only point gained was the exemption from duties of the vessel in which the embassy arrived. Van Braam calculates that his mission cost the Chinese emperor no less than 25,000*l*. "But," asks he, "is that paying too dear for this tribute of respectful affection?"*

The war between England and Holland, and the ultimate incorporation of the latter country with France, put a complete stop to the Dutch trade with China. The agents of the trade, however, remained in the country, continuing to receive their regular salaries; and after the fall of Napoleon the trade was recommenced. The Dutch, however, have not been able to recover the relative position in the trade which they occupied previously to the war, when their transactions with China were inferior only to those of the English.

ENGLISH.

The first attempt of the English to share in the advantages of the trade with China was made in the reign of Elizabeth. In 1596 three ships were fitted out by Sir Robert Dudley and others, whose commander was instructed "to pierce as far as China." The queen gave Dudley a letter for "The most high, serene, and powerful prince and ruler of the great kingdom of China, the greatest empire in the eastern parts of the world." The ships sailed, but never reached China, and never returned home. After some years Purchas obtained a letter from the Spanish captain-general of New Andalusia, who accused three English ships, answering to the description, of committing acts of piracy in the Indian seas, and of having taken three Portuguese vessels from Goa which contained jewels and other valuable property belonging to the king. The suspicious document of the Spanish governor barely states that the English crews were reduced by sickness to only four men, and that these four men in a single boat, wherein they had stowed all the precious commodities they could, reached a small island close to the Spanish main. At this island they were set upon and plundered of all they had by a body of Spaniards, who thus, as the captain-general laments, possessed themselves of what was the property of the king. He does not mention the fate of the four men, or enter into any further explanation. The real circumstances under which these ships were lost are thus unknown; but it ought to be mentioned that the piracy alluded to, or the practice of ships of rival nations plundering each other whenever they could, was for a long time prevalent. The Portuguese, the first settlers, attacked the Dutch; the Dutch attacked the Portuguese; both were hostile to the English, and the English retaliated on both. By the laws of war these attacks were justified while their respective governments in Europe, as it often happened, were belligerents, or in a state of open hostility; but it probably often happened in the Eastern, as in the Caribbean seas, that they continued their hatred and hostilities when there was peace between their respective countries at home. The timid and peaceful Chinese, however, must have been disgusted at seeing their own shores made the scenes of these contentions; and it certainly could have been no recommendation to Europeans, or to the Christian doctrine which they professed, and would have taught the Chinese, to learn that they met so far from their own homes to murder, plunder, or calumniate each other.

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* Voyage de l'Ambassade de la Compagnie des Indes Orientales Hollandaises vers l'Empereur de la Chine dans les Années 1794 et 1795. Barrow's Travels in China, pp. 8—13. Gutzlaff's History of China, vol. ii.

The first circumstances which brought the English into actual contact with the Chinese were certainly not calculated to give them a favourable opinion of our countrymen. The Dutch are accused of having committed outrages upon Chinese ships under English colours, in order to prejudice the minds of the Chinese against us; but the conduct of the English was bad enough to render such a measure quite superfluous. In 1605, nearly a century after the first Portuguese communication, Sir E. Michelbourne, who had a patent for trading to the Eastern seas, not only seized the ships of any nation which he met with, but also plundered several valuable Chinese junks. These depredations caused the English to be particularly designated as the enemies of China, trade with them was expressly prohibited, and they continued for many years the most feared and disliked of all the nations of Europe.

In the year 1637 another attempt was made by the English to establish a commercial intercourse with China. An agreement having been made between the Portuguese viceroy of Goa and the English president at Surat that the English should be allowed to trade to China and to the Portuguese settlements in India, the British merchants sent four ships and a pinnace under the command of Captain Weddel to Macao, which was then in the possession of the Portuguese. Jealous of dividing their commercial advantages, the Portuguese represented the exactions and duties forced from them by the Chinese to be so oppressive that their trade was rather a loss than a gain. Suspecting the motives of this advice, the English determined on proceeding, and early in June the pinnace with fifty men and a ship's barge were despatched to the river of Canton.

On reaching an anchorage in the river they landed, and were hospitably entertained at a native village. In their subsequent progress up the river they met a fleet of 20 junks. The officers were courteously invited on board, and a Portuguese negro, who understood Chinese, interpreted between them and their hosts. They were closely questioned as to their motives for thus forcing their way to Canton against the rules of the empire. They replied that they were the subjects of a powerful king of the West, who, being at peace with all his neighbours, wished to cultivate the friendship of the great emperor; that he had commissioned them to make such treaties of amity and commerce as might conduce to the advantage of both nations; and that they would willingly pay such demands as it might please the emperor to impose. Questions were then put to ascertain whether any Chinese pilot had aided them in their endeavours to reach Canton; but the English officers, wishing to give their hosts a high idea of their skill in navigation, assured them that they could discover and sail through the most difficult straits, and that all seas were well known to them. With a force fully able to compel, the Chinese descended to bargain, and offered to conduct the officers to Canton, where they might present their petition to the viceroy, provided the pinnace would instantly return to Macao. This was agreed to, and the party went on towards Canton; but they were met by a boat from the viceroy about five leagues from Canton, and informed that if they would return to Macao their petition should be granted. Wishing to give no cause for offence, and conscious also of their real weakness, they returned; but, instead of the expected arrangements, they found only derision for their credulity. Towards the end of July the whole fleet sailed for Canton. They had advanced as far as the Tiger's Gate, a narrow passage better known to Europeans by the name of the Boca Tigris, when they were met by some official personages, amongst whom it would appear were some of their former entertainers, who, after some specious explanations of their conduct, promised the English that they should positively have an audience of the viceroy if they would remain at anchor for six days where they now lay. The English consented, though they were not without suspicion.

They passed the interval in apparent inaction, but closely watching the proceedings of the Chinese; who, on their side, were diligently employed in conveying cannon to a fortification in the neighbourhood of the anchorage. In four days, conceiving that they had everything in readiness to destroy the English ships, they fired a volley into the midst of the fleet. Their shot, being ill-directed, did little harm, and before they could again discharge their unwieldy artillery the English guns bore upon their batteries, and made fearful havoc amongst them. The bombardment lasted above two hours; when, the guns of the enemy having been silent a considerable time, it was thought proper to attack the fort by land: 100 men were put on shore without opposition; they advanced rapidly to the fortress, and found it empty. The Chinese had prudently retired; and our countrymen were contented with demolishing the works, planting the British flag, and carrying off the guns. But the success of their arms was not calculated to promote the success of their commercial speculation. They remained at anchor, irresolute and undetermined. Neither friend nor enemy appeared, and they began to be in want of fresh provisions. Unwilling to do anything which might have a hostile appearance, they sent an officer with only seven men to purchase provisions on shore. The little party advanced above a mile into the interior, and found some villages, where they bought a stock of hogs and poultry. While engaged in the purchase they were suddenly attacked by 200 Chinese, who attempted to cut off their retreat to the boats, but were kept at a respectful distance by their experience of the effect of the English guns. The party succeeded in reaching the boats.

The English now made another attempt to address the viceroy. They wrote a firm but respectful letter, complaining of the bad faith which had been shown towards them, requesting permission to open a trade, and offering to restore the captured guns. An inferior mandarin was sent to them to inquire more particularly into their intentions. Ultimately the mandarin was empowered to convey them to Canton, where they had an audience of the viceroy. They had prepared a petition, which they were directed to present on their knees. The petition appeared to be favourably received. The former opposition was attributed entirely to the calumnies of the Portuguese, and leave was granted to the English to take possession of some island outside the river, which they might fortify and make the centre of their commerce. The cannon taken by the English were restored, and trade was commenced. Cloths, British goods, and money, were conveyed to Canton; and sugar, ginger, and China goods, were taken on board the English ships. Everything appeared to be going on prosperously; but, whether the Chinese government had been insincere from the beginning, or whether it altered its conduct from the representations and bribes of the Portuguese, cannot now be ascertained. However this may be, their conduct suddenly changed. While an unsuccessful attempt was made to destroy the English fleet at Macao by means of fire-ships, the officers at Canton were closely confined in the house they occupied, fire and food denied them, and a guard placed at their door, apparently with the intention of starving them to death. The officers, after waiting patiently a day or two, and finding their biscuit exhausted, resolved to force their way out. They chopped some wood into thin pieces, piled it against the door, and, having obtained a fire by the help of a burning-glass, they proceeded to kindle the chopped wood, with the intention of firing the house and escaping in the tumult. These operations had been watched through the crevices of the door by the Chinese guards, who were now very eager to open the door. This was at length done, but they were still confined to the house, though their imprisonment could not then have been very rigorous, as they are represented to have obtained victuals from the persons who passed the place by threatening to shoot them with their pistols in case of refusal. The conduct of their guards was probably in some degree influenced by the hourly intelligence they were receiving of devastations in their neighbourhood by the crews of the English ships, who, enraged at the detention of their officers, were laying waste the plantations, burning the villages, and sinking or disabling all the vessels they could meet with. The continuance of this destruction soon determined the Chinese to a more pacific line of conduct: they released the officers from confinement, permitted the English to conclude their trade, and were glad to see the fleet quit the river in the month of October. They were no sooner gone than an edict was issued strictly prohibiting all trade with the English nation; and their fear of the English was so great, that 20 years afterwards, in an answer to a Dutch petition to be allowed commercial intercourse, it was stated that the petitioners must prove themselves not to be Englishmen before they could be allowed to trade; for the English were the declared enemies of China, as they had arrived in the river with ships of war, which had not only beaten their navy, sinking and burning many of their ships, but had battered their castles, taken their great men prisoners, and had fought altogether more like devils than men; in consequence of which any Chinese who should trade with them would be a traitor to his country.

Two or three attempts were made to obtain a footing in China, but the efforts of the Portuguese rendered them unavailing. For a short period after the Tartar conquest, when the southern provinces were still in the possession of the Chinese, the assistance rendered by the English to those who refused to submit to the conqueror procured them a residence on the islands of Amoy and Quemoy; but the reduction of the whole empire soon afterwards deprived them of this advantage. It was not until near the end of the century that they were allowed, with other European nations, to partake of that commerce which has since so vastly increased in their hands.

In modern times the English, as well as the Russians, have come into direct territorial contact with the Chinese. This circumstance has arisen from the gradual extension of the English power in the East Indies. The first Englishman who put his foot on the territory of a country dependent on China, in this direction, appears to have been Mr. Moorcroft, who was sent into Tibet to procure specimens of that species of goat from whose hair the Cachemir shawls are manufactured. After crossing the Himalaya Mountains, Moorcroft reached the commercial town of Gortrope, which, with the neighbouring country, was held for the Grand Lama as a dependency of the Chinese government. From the courteousness with which he was received by the daba, or governor of this town, and from the resources the place offered to trade, it was at first hoped that a road might be opened to it, and a commercial intercourse established between it and our Indian territories. But Chinese jealousy was as awake as ever. No sooner was Moorcroft's visit to Gortrope known to the Chinese government than it manifested the highest indignation and deprived the governor of his office. Mr. Webb, who shortly after attempted to repeat the journey of Mr. Moorcroft, was arrested at the very frontier, and sent back with the most positive assurance that no Englishman should again be permitted to enter that country.

The first encounter of the British troops with the Tartars who are dependent on China, took place under the administration of Mr. Warren Hastings, when the British, having established their power over Central India and some of the northern provinces, carried their arms to the extreme northern boundary of that country. Here the British soldiers were astonished at finding an enemy clad in furs, and armed with bows and arrows. The Tartars were no less astonished at meeting an army of disciplined troops, admirably dressed and accoutred, whose artillery was such as they had never before seen, and whose musketry was irresistible. The teshoo lama, the spiritual chief of those Tartars who belonged to the country of Bootan, thought it expedient to negotiate with such formidable enemies, and sent a friendly mission to the British government, with presents of gold, gold-dust, musk, Tibet woollens, and Chinese silks.

Mr. Hastings acceded to the pacific proposals of the Tartar lama, and sent an English embassy to him in return. Mr. Bogle, the head of this mission, passed several months at the lama's capital, and thought he saw a probability of opening an advantageous commercial intercourse with that country, and through it with China Proper. This probability must always have been very slight, and, unfortunately, the Englishmen's friend, the lama, who was just setting off for China, died suddenly on reaching Pekin.

The warlike tribe of the Gorkhalis, who had possessed themselves of a great part of Nepaul, came in hostile collision with the Tartars of Tibet, and invaded their territory. On this a Chinese army of 40,000 men advanced against them, and not only drove them from Tibet, but followed them into their own territory in Nepaul. Thus was an army of the Celestial Empire acting within the frontiers of India, and the rich possessions of the English in the plains of Bengal were visible to the Chinese from the summits of the mountains which they occupied.

The government of Nepaul applied for assistance against the Chinese to the Marquis of Cornwallis, who thought proper to refuse it. This was about 1791-2. The Chinese, however, soon retired; and in the course of a few years the British power had such influence in the territory which the Chinese had invaded as to come into immediate contact with the Celestial Empire, and a line of English sentinels were within hail of a line of Chinese sentinels.

The enterprising disposition of our countrymen has, ever since their first visit to China, been strongly stimulated by a desire to penetrate into the country; but until the end of the last century, when a British embassy was admitted, they met insurmountable obstacles wherever they turned their steps. Except a hasty and somewhat hazardous peep into Canton and the country a little beyond it, and an occasional descent on the coast, they saw nothing of the vast empire. The most remarkable exertions ever made for the object of exploring China were by Mr. Manning, a gentleman of family and fortune, who early in life was inflamed with a desire of penetrating the obscurity in which so large a portion of mankind lay hidden. He went to Canton, and resided there for years, during which he obtained so perfect a mastery of their language, and so complete a knowledge of all their manners and ceremonies, that he could pass for a Chinese gentleman. Thus prepared, and confident in the acquirements that had cost him so much time and labour, he was setting out for his journey to the interior when he was intercepted by some of the Chinese authorities, who told him that his unlawful purpose was well known to them, and that he must immediately forego it and retrace his steps. Sorely disappointed, but not thrown into despair, by this repulse, Mr. Manning embarked for India, traversed that extensive country, and at last came down upon the Chinese frontier on that side, at a point where, from various circumstances, he hoped he should be able to penetrate, and make his way into the interior of the empire, without exciting suspicion. But he had not advanced many miles when he was met by the vigilant Chinese, and again expelled from their territory. In spite of all his advantages, which so few can ever hope to obtain, he was obliged to relinquish his long-cherished project.

The first embassy sent to China by the British government was that of Lord Macartney, which left England in 1792, and arrived in China the year following. Its object was to open a more direct commercial intercourse with China, and to obtain some relief to the British trade from the restrictions to which it has always been subjected.

When the vessels containing the ambassador and his suite arrived at the mouth of the Pei-hoo river, two mandarins of the first class came to congratulate them on their arrival, and behaved with so much civility as to prepossess the ambassador in favour of the Chinese. Provisions were supplied in great abundance, and no marks of respect seem to have been omitted. The ambassador and suite left the vessels at the entrance of the river, and proceeded towards Pekin in boats. The banks of the river as they passed were crowded with people, who exhibited the utmost anxiety to see the strange "tribute-bearers."

In this character they appeared to the people: for, through some strange inadvertence or mistake, Chinese flags inscribed with this designation were allowed to wave over the vessels in which the embassy proceeded to Pekin. No sooner had they arrived there than it was intimated that the ambassador would be expected to perform the Chinese prostrations at the audience with the emperor. There was much squabbling on this subject. The ambassador ultimately offered to perform the kotaw before the emperor, if some high officer of state would previously perform the same ceremonies of homage before a picture of George III. This was declined; and it was finally conceded that the ambassador should perform the same reverence as on entering the presence of his own king.

The emperor was at that time at Zhe-hol in Tartary, and the embassy was under the necessity of proceeding thither. They accordingly passed the great wall, and on arriving at their destination were admitted to an audience in the gardens of Zhe-hol, where tents had been pitched for the occasion, and where they found in attendance a large assemblage of the principal persons in the empire. Several of the courtiers were, by the direction of the emperor himself, partly dressed in English cloth, in compliment to the embassy, although the usual court etiquette prescribes the use of dresses of silk or fur in the presence of the emperor. In the middle of the garden was a spacious and magnificent tent, supported by gilded or painted and varnished pillars, and composed of canvas painted yellow. Within was placed the throne, on which light was thrown by windows in the sides of the tent. Opposite the throne was a wide opening, from which a yellow fly-tent projected to a considerable distance.

Soon after daylight the approach of the emperor was announced by music. He soon appeared from behind a high mountain skirted with trees, as if from a sacred grove, preceded by a number of men employed in proclaiming aloud his virtues and his power. He was seated in an open chair, or triumphal car, borne by 16 men, and followed by guards, officers of the household, flag and umbrella bearers, and music. He was dressed in plain dark silk, with a velvet bonnet, not much different in shape from that worn by the Scotch Highlanders: a large pearl in the front of it was the only ornament about his person. Lord Macartney and Sir George Staunton, the principal performers in the English part of the ceremony, attired themselves for the occasion somewhat in conformity with Chinese notions of propriety. His lordship wore the broad mantle and decorations of the Order of the Bath, and Sir George wore the scarlet gown of an honorary doctor of laws of Oxford. On the approach of the emperor the gentlemen of the embassy came forth from their tent and knelt on one knee as he passed, while the Chinese made their usual prostrations.

As soon as the emperor was seated on his throne the ambassador advanced, holding between both hands, lifted above his head, the magnificent gold box, adorned with jewels, which contained the King of England's letter to the emperor. In this manner, says the ambassador himself, "I walked deliberately up, and, ascending the steps of the throne, delivered it into the emperor's own hands, who, having received it, passed it to the minister, by whom it was placed on the cushion. He then gave me, as the first present from him to his Majesty, the *eu-shee*, a symbol of peace and prosperity, and expressed his hopes that my sovereign and he should always live in good correspondence and amity. It is a whitish agate-looking stone, perhaps serpentine, about a foot and a half long, curiously carved and highly prized by the Chinese; but to me it does not appear in itself to be of any great value."[*]

In the opinion of the Chinese this reception was, in the highest degree, honourable. The ambassador then, according to etiquette, presented his own present, consisting of a pair of beautiful enamelled watches set with diamonds, which was returned with an *eu-shee* of a greenish-coloured serpentine stone of the same emblematic character as the former. Sir George Staunton was then introduced, and presented the emperor with two elegant air-guns, which was returned by an *eu-shee* nearly similar to that given to Lord Macartney. Other presents were also sent at the same time to the other members of the embassy.

During these ceremonials, which were lengthened by the necessity of having what was said on each side interpreted, the emperor appeared perfectly unreserved, cheerful, and unaffected. Adverting to the tediousness of the mode of communication, he asked whether any person in the embassy understood the Chinese language, and being informed that the ambassador's page (Sir George Staunton's son), a boy then in his thirteenth year, had alone made some proficiency in it, the emperor directed that he should be brought up to the throne, and then desired him to speak Chinese. Kien-Lung was so much pleased either with what the lad said, or with his modest countenance and manner, that he took from his girdle a purse hanging from it for holding areca-nut, and presented it to him. The purse was merely of plain yellow silk, with the figure of the five-clawed dragon and some Tartar characters worked upon it; but purses are employed by the Chinese emperor like ribands by European kings, being distributed as rewards of merit among his subjects; and a present of his own purse is a high mark of personal favour, for the Chinese, like other Eastern people, prize beyond all other gifts articles which have been worn by the sovereign himself. The gift of the imperial purse accordingly procured for young Staunton the flattering notice of all the mandarins.

After this, ambassadors from Birma and Little Bucharia were introduced, and, having performed the kotaw, were speedily dismissed. Lord Macartney, and the three persons who accompanied him, were then conducted to cushions, on which they sat to the left of the throne.[*] A table was laid for every two guests, and as soon as all were seated, the tables were uncovered and exhibited a splendid banquet. The tables were small, but on each of them was a pyramid of dishes and bowls piled upon each other, and containing a great variety of viands and fruits. A table was also placed before the throne, and the emperor appeared to eat heartily. Tea also was served; and it was noted that, whenever a dish or cup was carried to him, the bearer held it high above his head, in precisely the same manner in which the ambassador had been instructed to carry the King of England's letter to the throne.

During this repast the emperor exhibited the most considerate attention to his European guests. He sent them several dishes from his own table, together with some liqueurs distilled or extracted from rice, herbs, and honey. When all was over, Lord Macartney says, "He sent for Sir George Staunton and me to come to him, and gave to each of us, with his own hands, a cup of warm wine, which we immediately drank in his presence, and found it very pleasant and comfortable, the morning being cold and raw. Among other things he asked me the age of my sovereign, and, being informed of it, said he hoped he might live as many years as himself, which were then 83. His manner was dignified, but affable and condescending, and his reception of us was very gracious and satisfactory."

When the festival was concluded the emperor descended from the throne, and marched with a firm step and erect attitude to the open chair which was waiting for him. Thus terminated a ceremony which, in all its circumstances, had lasted five hours. During the entertainment various exhibitions of wrestling, tumbling, wire-dancing, together with dramatic representations, were exhibited opposite the emperor's tent, but at a considerable distance from it. Nothing struck Sir George Staunton more than "the solemnity and silence, approaching to religious awe, with which the whole business was conducted. No conversation among the guests, no bustle among the attendants. The commanding feature of the scene was the calm dignity and sober pomp of Asiatic grandeur, which European refinements have not yet attained."

The embassy was afterwards present at the celebration of the emperor's birthday, and again were invited to witness the representation of a comedy and other diversions which took place in the emperor's presence the following day. On this last occasion the emperor conversed with Lord Macartney and Sir George Staunton: he said they were perhaps surprised to see a man of his age present at such spectacles. It was only on particular occasions, such as this, that he assisted at them; for the care of watching over the safety of his people, and of enacting laws for their welfare, left him no leisure for such amusements. He then gave the ambassador, for the King of England, some curious old gems which he particularly valued, as they had been 800 years in his family, together with a little book containing some stanzas of his own composition, and written with his own hand. He also gave the ambassador for himself a similar autograph book, together with several purses for areca-nut; Sir George Staunton also received a purse, and some small presents were sent to the other gentlemen of the embassy.

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[*] Barrow, p. 197.

[*] The left hand, not the right hand as with us, is the station of honour among the Chinese.

The desire of the Chinese government that the embassy should depart was at last intimated with considerable delicacy. It was said that the emperor, when he heard of the ambassador's indisposition, and the loss of several persons of his suite by death since his arrival in China, had remarked how much strangers were liable to suffer from the severe winters of Pekin; and being apprehensive that the health of his present visitors would sustain much injury if they continued there, he thought it might be desirable for them to set out before the rivers and canals were frozen, as the route by land was necessarily fatiguing and inconvenient. The next evening the answer of the emperor to the king's letter was brought in great state to the ambassador's hotel. At the same time were brought several chests containing presents from the emperor to the king. Other presents came also for the ambassador and all the persons of his suite, the meanest servant present not being left without some token of the emperor's munificence. Presents were also supplied for all the officers and men belonging to the ships which brought the embassy to China.

The officers of the government carefully avoided all discussion on the particular points which formed the business of the embassy. It seems to have been determined to consider the English mission merely as one of compliment, and to merge the particular subjects, to which the ambassador repeatedly endeavoured to call attention, in general professions of good-will. Among other things it was stated in the imperial letter that, although the proposals contained nothing in themselves improper, they tended to introduce new things, which the emperor at his advanced age was most anxious to avoid. The ambassador felt, upon the whole, that his mission, although it could not conclude any business or establish any new relations between England and China, had produced a good effect upon the minds of the Chinese. This view of the matter was confirmed at Canton, where despatches from the emperor intimated that the return of an English minister to his court would be most welcome to him; adding that he intended in the year 1796, when he should have completed the sixtieth year of his reign, to resign his crown, and should be happy on that occasion, or as soon after as might be convenient, to see an ambassador from England.*

Twenty years, however, elapsed before another ambassador to China was appointed. The redress of the grievances and obstructions which were felt with increased severity at Canton was the object which this second mission had in view.

The charge of this embassy, which left England in February 1816, was intrusted to Lord Amherst, assisted by two commissioners, Sir George Staunton † and Mr. Ellis. The embassy, consisting of seventy-four persons, disembarked at the entrance of the Pei-hoo river, and having been met by three Chinese commissioners, appointed to receive them, proceeded up the river in boats, the flags of which bore the usual inscription of "tribute-bearers." On the third day they arrived at Tien-sing, and remained there one day. Mr. Gutzlaff says he has often spoken with natives at this place about the impression which the embassy made at its first appearance:—"There was only one voice upon the subject. Five armed vessels could not have been sent for the mere purpose of bearing tribute. If the English had not come to conquer, and drive from the throne a weak prince, they would not have come with so many men-of-war. But if they were anxious to conclude a commercial treaty they brought these vessels in order to give weight to their demands, and to take the only reasonable way of gaining advantage—compulsion."

During the pause at Tien-sing the Chinese insisted upon the performance of the nine prostrations by the ambassador when he should be introduced to the presence of the emperor. The demand, however, was strenuously resisted. This matter had been left by the British government to the discretion of the ambassador; and although he and Mr. Ellis felt the ceremony repugnant to individual feeling and to the practice of modern European courts, yet they scarcely thought that it would be advisable to sacrifice the essential objects of the mission to a matter of etiquette. They proposed, however, to be guided in this matter by the opinion of Sir George Staunton, who had a better acquaintance with the habits and feelings of the country. Sir George was decidedly opposed to the performance of this ceremony, as not only incompatible with personal and national respectability, but as calculated to have an injurious effect upon the East India Company's interests at Canton. If the explanation given of the ceremony in the recent work of Gutzlaff be correct, Sir George had certainly sufficient ground for his scruples.

The subject was started at Tien-sing, on occasion of an entertainment at which the embassy was to be present, and as it was given by the emperor an expectation was expressed that the same ceremony would be performed before it as in the imperial presence. The kotaw was mentioned as the ceremony. This gave Lord Amherst an opportunity to state that he intended to approach the imperial presence with the same demonstrations of respect as that of his own king, and that he purposed to follow in all respects the precedent of Lord Macartney. This led to the extraordinary and impudent assertion that Lord Macartney did perform the kotaw on several occasions, and Sir George Staunton was even appealed to as having been present at the time. The truth of this statement was of course denied; and the mandarins, finding that the ambassador would rather decline the banquet than perform the ceremony, agreed to be contented with his bowing in the same manner as before the vacant throne of his own king. The heads of the embassy were then conducted before a rich screen, in front of which was a table covered with yellow cloth, and supporting a vessel with burning incense, symbolical of the Chinese emperor's presence. Here the mandarins fell upon their knees, and, inclining their heads forward, knocked them three times against the ground. They then arose, and, at a given signal, knelt again a second and a third time, knocking their heads thrice against the ground. The ambassador and the principal members of the embassy stood before the screen, and bowed in unison with the thumps which the mandarins gave their heads upon the floor.

The discussion as to the reverence to be performed before the emperor was renewed after dinner: Lord Amherst declared his intention to kneel on one knee, as before his own king, and had no objection to kneel thrice and bow nine times, to make out a sort of analogy to their own three prostrations and nine knocks. The mandarins wished him to do this at once, that they might see how it looked; this of course he declined, but, at the instance of Sir George Staunton, the son of Lord Amherst went through this ceremony before his father. The Chinese seemed rather pleased with it; although they gave no hope that it would satisfy the emperor, and certainly the kissing of his hand would not be allowed.

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* Staunton's Account of Lord Macartney's Embassy; Barrow's Travels in China, which contains extracts from Lord Macartney's own Journals; and Gutzlaff's History of China, vol. ii.

† This Sir George Staunton is the son of the Sir George who was secretary of embassy under Lord Macartney, and himself the person who when a lad was so favourably noticed by Kien-Lung. At this time he was already in China as president of the East India Company's select committee at Canton. He joined the mission on its arrival on the Chinese coast.

A few days after, as the embassy was on its way from Tien-sing to Pekin, the mandarins received a message from the emperor, declaring that the embassy would not be received without the performance of the kotaw, and intimating his own personal knowledge that the ceremony had been performed by Lord Macartney. At last Lord Amherst offered to perform the kotaw, provided the same ceremony were performed by a Tartar mandarin of rank before the picture of the Prince Regent, or that the emperor should make a formal declaration that any Chinese ambassador, who might hereafter appear at the English court, should, if required, make the same prostration before the British king. These propositions were decidedly negatived by the mandarins, who, in the course of the discussion, ventured to hint that the ambassador could comply with the wish of the emperor, and on his return to England might there make what report he pleased to his own king.

Ultimately Lord Amherst and Mr. Ellis were disposed to consider that the declaration of the emperor, of its being within his own knowledge that Lord Macartney had performed the kotaw, might furnish a decent pretext for withdrawing resistance; it was therefore intimated to the mandarins that an edict from the emperor containing this statement, and also gracious expressions respecting the embassy, with an understanding that their requests would be favourably considered, might possibly be felt to authorise compliance. The mandarin to whom this was intimated thought this reasonable enough. This conference terminated with the understanding that the ambassador would give the subject further consideration, and this resulted in the determination not to perform the kotaw; for Sir George Staunton and the gentlemen of the factory were of opinion that compliance would be highly injurious to the company's interests. On this being intimated to the mandarins, they stated that all was now satisfactorily arranged, and that the subject would not again be pressed.

The embassy was then hurried forward to Yuen-ming-Yuen, where the emperor then was. They arrived there on the 29th of August, and were immediately taken to the imperial palace, and shown into a miserable apartment. In a short time the room was entered by Soo-ta-jin, a mandarin of high rank, who brought a message that the emperor wished to see the ambassador and the commissioners immediately. Lord Amherst stated that fatigue, indisposition, and the want of proper attire, rendered it impossible to comply, and he begged to be excused until the morrow, requesting at the same time to be conducted to the house proposed for his reception. Soo-ta-jin and another mandarin continued strongly to urge compliance, but finding they could not succeed they withdrew; they were succeeded by Hoo, a person of high rank, known in the embassy by the title of "duke," and who had been one of the commissioners deputed from Pekin to argue the point of ceremony with the ambassador on the road. He entered the room in his usual determined manner, and, going up to the ambassador, repeated the desire of the emperor to see him; adding that he would only be required to perform the English ceremony. When the ambassador repeated the answer he had previously given, Hoo caught him rudely by the arm, as if in friendly violence, to take him from the room, and another mandarin followed his example. The ambassador shook them off, and after remonstrating on the treatment repeated his request that an immediate interview might be dispensed with. The duke, after again urging compliance without effect, departed, and a message soon after came to say that the emperor dispensed with the ambassador's attendance, and would send his own physician to him.

The ambassador was then conducted to a house which had been prepared for his reception in the neighbouring village of Thai-tien, where he was soon visited by the imperial physician, and it is concluded that his report to the emperor, that the alleged indisposition was merely a pretext, had considerable influence upon the subsequent proceedings. The gentlemen had not been allowed to remain more than two hours in their new domicile before it was announced by the mandarins that the emperor, being incensed by the refusal of the ambassador to attend him, had given orders for their immediate departure. They were accordingly hurried off, and had to travel all that day and the following night, until they arrived at Tong-chaw, the place where they had left their boats in order to proceed to Yuen-ming-Yuen by land. During their return to this place they were subject to much neglect and annoyance, all the Chinese appearing to feel that they had experienced the fullest extent of misfortune and disgrace in having incurred the displeasure of the "Son of Heaven;" and at their arrival they found the quarters which they had previously occupied closed against them, and the triumphal gateway thrown down which had been set up to honour their arrival.

Various causes have been assigned for their abrupt dismissal. Mr. Ellis thinks that the half-promise given, that the ambassador's own ceremony should be accepted, was a mere deception, and that the real intention was to bring him into the emperor's presence under circumstances so inconvenient and indecorous as to render it perfectly indifferent what ceremony he went through, or by confusion and personal violence to compel the performance of the kotaw; or else the emperor, anticipating Lord Amherst's refusal of immediate attendance, may have proposed it as a pretext for his dismissal. The audience having been called private, it is also conjectured that the emperor's object may have been to insist in person upon the performance of the kotaw at the public reception of the embassy, and, in the event of continued resistance, at once to dismiss the ambassador. Gutzlaff, who certainly has had good opportunities of forming an opinion on the subject, considers the whole affair of the dismissal as the result of a design of disgracing the representative of so powerful a nation as the English in the eyes of the Chinese grandees and the people.

The embassy soon after, however, received the Chinese version of the transaction, which was, that Hoo had exceeded his instructions in intimating that the kotaw would not be insisted upon; for that there had never been an intention to dispense with that ceremony, at least at the public audience. The period when the attendance of Lord Amherst before the emperor was required had been previously fixed, and had indeed been intimated to his lordship the preceding day. The time had been fixed without any reference to the fact that the embassy had travelled all the previous night; and had this been properly stated to the emperor he would have considered it a sufficient reason for postponing the audience. But the mandarins had withheld this from his knowledge, and had only stated indisposition as the ground of objection; and, therefore, when his physician reported to him that the alleged indisposition was merely a feint, the emperor became angry, and issued orders for the dismissal of the embassy. He had afterwards discovered the actual state of the case, and had degraded the mandarins who were parties in the transaction, and fined them in the full amount of the expenses which might be incurred on account of the embassy, the hasty dismissal of which the emperor was understood to regret.

That this account of the transaction was only intended to pacify the ambassador, however, appears from an edict afterwards published, in which the dismissal of the embassy is entirely attributed to the misconduct of the ambassador and the commissioners.

It seems to correspond with this statement, or at least indicates that it was desired by the Chinese government to give a fair turn to the matter, that the embassy was followed to Tong-chaw by commissioners, with presents from the emperor to the Prince Regent. These presents consisted of a large sceptre, formed of a stone of a greenish-white colour, and symbolically expressive of contentment: the handle was flat and curved, not unlike that of a ladle, and the top of a circular shape, with some resemblance to the leaf of the water-lily. There was also a mandarin's necklace of green and red stones, and a few beads of coral, with a red ornament set round with pearls, attached to it; to these a few embroidered silk purses were added. The commissioners, in delivering these presents, intimated the emperor's wish to have in return a few of the articles originally intended for him. The articles which they selected for the purpose were the portraits of the king and queen, a case of maps, and some coloured prints, manifesting, as it was afterwards expressed in an imperial edict, "the idea of giving much and receiving little." *

It is only necessary to add that the mission on its return was conducted by measured stages to Canton, having on the way been treated with a decent measure of civility, according to the imperial orders. The emperor's answer to the Prince Regent's letter was delivered to the ambassador by the viceroy of Canton on the arrival of the mission at the city of that name. It was couched in very pompous language, and concluded with the intimation that it would not, on any future occasion, be necessary to send a "tribute-bearer" from so great a distance.

Mr. Barrow calculates that Lord Macartney's mission cost the Chinese government a sum equal to 170,000*l.* sterling; and Mr. Davis states that Lord Amherst's must have cost them nearly the same sum during the five months that it was on their hands. A quarter of a century has now elapsed since a special embassy has been sent from this country to the Court of Pekin. Although the mission of Lord Amherst was not crowned with success, it was followed by a longer period of tranquillity than had been experienced since the commencement of our intercourse with the Chinese. The following notes will serve to place in chronological order the history of that intercourse from the period of Lord Amherst's embassy to the present time.

From 1816 to 1829 we have only one instance of the British trade being suspended. In 1820 a circumstance occurred which in the sequel proved, as Mr. Davis remarks, the anxiety of the government to avoid a discussion with the English. Mr. Davis's work contains (p. 43) the following account of this transaction:—"Some boats from one of the Company's ships were watering in the river, when they were barbarously attacked by a party of Chinese with stones. The officer in charge of the boats fired over the heads of the assailants to make them desist, but the shot unfortunately took effect among some boys on a high bank opposite, and killed one of them. The Chinese, as usual, demanded that somebody should be given up; but the committee insisted on the urgent emergency which led to the discharge of the gun, as well as on the accidental nature of the case. In the mean while the butcher on board one of the ships committed suicide; and the Chinese, on hearing this, immediately took it up, thinking proper to assume that he must be the individual who had shot the boy! The utmost eagerness and haste were shown by them in appointing an inquest of mandarins, who proceeded to examine the body; and as it was decided by them at once that the deceased butcher must be the homicide, the trade proceeded as usual. It must be observed that the committee only granted permission for the ship to be boarded by the mandarins when they demanded it, and that the whole proceeding showed the extreme anxiety of the local authorities to accommodate the affair as soon as they despaired of getting possession of a victim to be strangled without a trial. But they carried the matter still further. A person of some rank, scandalized at this disgraceful proceeding on the part of the government, did his best to induce the father of the deceased boy to declare that he was not satisfied of the butcher being the slayer of his son. The mandarins immediately took all the parties into custody, and punished the instigator of the complaint as one who conspired to promote litigation and trouble."

In 1821 the Americans became embroiled with the Chinese, and were induced to give up an Italian sailor named Terranova, and he was barbarously strangled. We have noticed this event under the proper head in an ensuing page. In the case of the English frigate Topaze, the delivery of two of the crew was demanded in consequence of two Chinese having been killed under the following circumstances:—An unarmed party of the crew were watering on the shore, when they were suddenly attacked by the natives, armed with spears and long bamboos. The situation of the seamen appearing desperate, a party of marines was ordered on shore, who, by their fire, covered the retreat of the seamen, and at the same time some guns were discharged to keep a neighbouring village in check. Fourteen seamen were wounded, and two Chinese were killed and four wounded. Captain Richardson, the commander of the Topaze, wrote to the viceroy explaining the transaction, but he refused to hold any communication with him, threatened to stop the trade until two Englishmen were given up, and threw the responsibility of the affair on the select committee. The committee determined to meet this threat, and on the 11th of January they hauled down their flag at Canton, went on board the ships, and the whole fleet proceeded to an anchorage lower down the river. The viceroy now issued a paper recognising Captain Richardson's independence of the committee, and inviting them to return; but as they insisted upon stopping the trade until two men were delivered up, the committee refused. The demand was reiterated, on which the fleet removed below the river. This step was to have been followed by a total cessation of intercourse; but so far from this being the case, the merchants eagerly renewed the negotiations for a settlement, proposing that the committee should address the viceroy, "stating it to be Captain Richardson's declaration that two men had disappeared from the frigate, by which the local government would be enabled to show that these two men must have been the homicides." This piece of duplicity being treated as it deserved, the Chinese next hinted that if the frigate were to go away for a few days the viceroy would be enabled to report that she had absconded, and thus an amicable arrangement might be the result. Other equally characteristic proposals were made, but when they had all failed the trade was fully and freely opened by the Chinese authorities, and they exonerated the committee from the responsibility which in the first instance had been cast upon them. Mr. Davis, alluding to this transaction, says—"The local government was on this occasion for the first time brought to acknowledge that the committee had no control over, nor connexion with, his Majesty's ships."

Several years now passed over without being marked by any events of importance, and the trade proceeded uninterruptedly. In 1828 and 1829 two of the Hong merchants failed, whose aggregate debts amounted to two million dollars. At this period the Hong merchants, ten or eleven in number, were responsible in a corporate capacity for the debts of individual members of their body to Europeans. There was a regulation forbidding them to contract money obligations to foreigners, but it had at all times been inoperative; and the security which the consoo, or general body, afforded, was an inducement which capitalists readily embraced; and thus the facility of obtaining loans tempted the Chinese merchants to incur large debts, bearing interest at the rate of 10 or 12 per cent. On the occurrence of these heavy failures some new regulations were adopted for the government of the Hong merchants, and the consoo is no longer liable for debts incurred by individual members of their body. Their number is at present 11, and each Hong is licensed to trade on his individual account. The consoo fund, from which the debts of insolvent Hongs were paid, is derived, according to Mr. Davis, "from charges, amounting to about three per cent., laid by the body of Hong merchants on foreign exports and imports; and hence it becomes a severe burden on the fair trade of Canton. Instead of being allowed to terminate with the liquidation of the debts for which they were first levied, it seems that the charges have continued in full force, and served to meet the increased demands of the government on the consoo." These exactions from the Hong merchants are made under various names, as "Uses of the army," "Yellow river," "Imperial tribute," &c. The origin of the Hong monopolists is to be attributed to the jealousy of the rulers of China, and they therefore recognise a body to whom the office of dealing with foreigners is delegated. Before the Chinese government could be induced to amend the constitution of the Hong monopoly, the select committee more than once stopped the trade.

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* Ellis's Journal of the Proceedings of the late Embassy to China; Abel's Narrative of a Journey in the Interior of China; Gutzlaff's History of China, vol. ii.

In 1830, the Chinese authorities of Canton having taken offence at some encroachments in rebuilding the European factory after the great fire in 1822, again displayed their jealousy, and new restrictions were published for regulating intercourse with foreigners of a more stringent nature than any which had been yet in force. No Europeans were to remain during the summer at Canton; the native servants were to be more under the surveillance of the Chinese authorities; all foreigners were to submit to the government and control of the Hong merchants, and not to quit the factories in which they lived; none might move up and down the river without a licence; and other restrictions were also contemplated. On the edict containing these regulations being published, the English committee threatened to suspend the trade. Before the period for carrying this design into effect, the viceroy of Canton forwarded the emperor's confirmation of the new restrictive regulations, and the question no longer rested with the local government. The committee had sufficiently shown their sense of these measures, and having communicated with the governor-general of India, he sent one of his Majesty's ships with a letter of remonstrance, which was delivered to the viceroy. Eventually the new regulations were quietly laid aside, and have not again been brought forward.

In 1832 an experiment was made to carry on a trade at the prohibited ports of China, but the result proved that without the consent of the imperial court nothing could be done in the way of promoting this object, and that, until this sanction could be obtained, Canton must continue the sole place of European trade. The experiment seems to have been very fairly tried. An assortment of goods likely to be in request was judiciously made, the ship conveying them was put under the care of an experienced officer of the East India Company, and Mr. Gutzlaff accompanied it as interpreter. The ship was absent six months, and touched at Amoy, Foochowfoo, Ningpo, Shanghae, and, on returning, at Corea and Loo-choo. As a commercial speculation the expedition had entirely failed, more from the determined opposition of the authorities than of the natives, who in some instances appeared desirous of more extended intercourse.

On the 22nd of April, 1834, the trade of the East India Company with China, after having lasted just two centuries, was brought to a close, according to the provisions of a new Act, rendering the trade free. Several ships soon afterwards quitted Canton with cargoes of tea for the British islands. Lord Napier, who was sent out by the government as official superintendent of British trade, to replace the authority of the East India Company, arrived at Macao in July, 1834. Mr. Davis and Sir George Robinson were included in the same commission as that under which Lord Napier derived his authority. On the plea that Lord Napier's mission had not been announced from England, and that the assent of the court of Pekin was necessary before his official claims could be recognised, the viceroy of Canton refused his lordship's letter of announcement, and declined every subsequent offer of direct communication. The Chinese authorities, for the purpose of annoying Lord Napier, beset his residence with soldiers, drove away his native servants, and stopped the supply of provisions, and his lordship was under the necessity of sending for a guard of marines for his protection; and he directed two of his Majesty's ships to proceed to the anchorage of the trade at Whampoa. On the 7th of September the ships passed the batteries at the Bocca Tigris, which opened upon them, but were soon silenced, as was also the battery on Tiger Island, though at this latter place a British sailor was killed by a shot from the Chinese. After tedious delays the frigates anchored at Whampoa on the 11th of September. The communication between this place and Canton was closed against the Americans as well as the English; and previous to the resumption of commercial intercourse the local government required the withdrawal of the frigates from the anchorage of the merchantmen, and the retirement of Lord Napier from Canton. Lord Napier, being unwilling, by maintaining his claims, to occasion the further interruption of the trade, arranged that the frigates should return to Lintin; and on the 21st of September he reached Macao, where he died in a few weeks. The viceroy reopened the trade as soon as Lord Napier had retired from Canton. Mr. Davis, author of the valuable work on China which we have quoted, was appointed as the successor of Lord Napier.

The Chinese, however, were not quite satisfied with the new official arrangements under which the free-trade was conducted, and the viceroy issued two edicts, requiring the English merchants to elect a temporary tae-pan, or commercial chief, to control the English shipping and prevent smuggling. As the Hong merchants were naturally anxious to retain the control of English affairs in their own hands, the merchants were directed to write home for a tae-pan, who was to be a merchant, and not a king's officer. Mr. Davis predicted that the embarrassment which must result to the local government from the want of some authority to which reference might be made would in time oblige them to recognize the king's commission; and this view has proved correct, a direct correspondence having been established between the officers of the Chinese government and Captain Elliot, who succeeded Mr. Davis.

During 1835 and 1836 the trade proceeded without interruption—a circumstance to be attributed rather to the reciprocal advantages of the parties interested being best consulted by such a course than from the influence of any superintending power. This power was, in fact, so destitute of real authority, that in one of the above years a British trader, whose goods had been seized by the Chinese customs, was about to take the law into his own hands by reprisals on the Chinese trade.

We now come to the circumstances which have led to the present state of our relations with China. The Chinese government had been in the frequent habit of denouncing the smuggling of opium; but as that trade was carried on under the eyes of the authorities, and many official persons of consideration and rank derived a profit from encouraging it, the edicts concerning the unlawfulness of the traffic were regarded as little better than waste paper. Mr. Davis states that the opening of the trade in 1834 gave a great impulse to smuggling, which awakened the attention of the Chinese government, and led it seriously to determine upon its suppression. Early in 1838 Captain Elliot wrote home, stating that there was no longer any reason to doubt the sincerity of the Chinese court on this point. He added—"The immense, and, it must be said, the most unfortunate, increase of the supply of opium during the last four years, the rapid growth of the east-coast trade in opium, and the continued drain of the silver (in payment), have, no doubt, greatly alarmed the government." It was at this period that a mandarin was disgraced for having advised that a tax should be laid on opium and the trade legalised. During the administration of the Company at Canton opium-smuggling was excluded from the interior of the Bocca Tigris, and confined to Lintin and the coast; but on the subversion of the Company's authority, those engaged in the traffic set no bounds to their proceedings. Captain Elliot observed that "the manner of the rash course of traffic within the river had probably contributed most of all to impress (on the Chinese government) the urgent necessity of repressing the growing audacity of the foreign smugglers, and preventing their associating themselves with the desperate and lawless of their own large cities." And he stated in the same despatch that, "while such a traffic existed in the heart of our regular commerce, I had all along felt that the Chinese government had a just ground for harsh measures towards the lawful trade, upon the plea that there was no distinguishing between the right and the wrong." He concluded by requiring to be vested with defined and adequate powers to enable him to interpose his authority with effect in controlling the illicit trade. In November, 1837, he had addressed the home government, recommending a special commissioner to be sent to Chusan for the purpose of adjusting the difficulties arising to the lawful trade from the proceedings of the opium-smugglers: but this suggestion was unavailing. In September, 1838, a seizure of opium was made at Canton, opposite the dwelling of the British trader to whom it belonged, and who, with the ship from which the opium came, was ordered out of the river; and, with a view to intimidate the European smugglers, preparations were made for strangling a native dealer in opium in the square immediately before the factory, but the Europeans succeeded in driving away the persons who were to have inflicted this punishment. Captain Elliot now issued a notice, directing all the smuggling craft in the river belonging to the English to proceed outside within three days; and he offered his co-operation to the government for the purpose of putting a stop to the river smuggling. It was on this occasion (says Mr. Davis) that he obtained from the viceroy the important concession of a direct communication with the mandarins, without the intervention of the Hong merchants. The steps taken by the native and European authorities proved tolerably effective for some months. In January, 1839, the local government addressed a proclamation directly to the foreigners, requiring that the opium-ships on the outside should all be sent away, under the penalty of hostile measures. Mr. Davis regards this mode of addressing foreigners direct, and not through the Hong merchants, as strong evidence of the sincerity and earnest feeling of the Chinese court on the subject of smuggling. The appointment of a very high officer from the imperial court, invested with summary powers, was announced by the local government. Just before his arrival a native opium-smuggler was brought to the square fronting the European factory, accompanied by a considerable military force, and there publicly strangled.

Immediately on his arrival the Imperial Commissioner (Lin) issued an edict (directly) to the foreigners, demanding that all the opium on board the ships should be delivered to the government for the purpose of being destroyed. He also required a bond in the Chinese and foreign languages to the effect that "the ships should hereafter never again dare to bring opium; and that, should any be brought, the goods should be forfeited, and the parties suffer death; moreover, that such punishment would be willingly submitted to." On the 24th of March Captain Elliot, the British superintendent, hastened to the factories, which he found in great alarm in consequence of the demand that Mr. Dent, a respectable English merchant, should proceed into the city, and attend the tribunal of the Imperial Commissioner Lin. Captain Elliot expressed his willingness to let Mr. Dent go into the city with himself, on the distinct stipulation, under the commissioner's seal, that he was not to be moved out of his sight. On the same evening the Europeans were closely imprisoned in the factory; the native servants were taken from them, and their supplies cut off. Mr. Davis says—An arc of boats was formed, filled with armed men, the extreme ends of which touched the east and west banks of the river in front of the factories. The square between, and the rear, were occupied in considerable force; and before the gate of the hall the whole body of Hong merchants and a large guard were posted day and night."

It was under these circumstances that Captain Elliot required the surrender of all the English opium on the coast of China, and on the 3rd of April 20,283 chests of opium were delivered to the commissioner from the ships assembled for that purpose below the Bocca Tigris; the British superintendent giving a bond to the owners as an indemnity. On the 4th of May, all the opium having been given up, the blockade of the factory at Canton ceased, and 16 individuals were ordered to depart under an edict from the government never to return. The imperial commissioner placed the intercourse with foreigners under the narrowest restrictions. Mr. Davis states that "all the unlicensed merchants and shopkeepers engaged in most extensive transactions with Europeans were ordered to remove forthwith, and their streets blocked up. Barriers were built across some streets, the factories stockaded about, terraces torn down, and the foreigners made little better than prisoners within their own dwellings." Captain Elliot applied to the governor-general of India for ships of war and armed vessels for the protection of life and property.

We are now at war with China. In the Queen's speech on the opening of parliament in Jan. 1840, it was stated that "Events have happened in China which have occasioned an interruption of the commercial intercourse of my subjects with that country. I have given, and shall continue to give, the most serious attention to a matter so deeply affecting the interest of my subjects and the dignity of my crown." On the 21st of June, 1840, Commodore Sir J. Bremer, with the first division of the Chinese expedition, arrived at Macao, proclaimed a blockade of the river and port of Canton, and sailed to the northward. On the 28th Admiral Elliot, the commander-in-chief of the naval forces, arrived, and two days afterwards followed Commodore Bremer with the second division. On the 5th of July the island of Chusan was captured and occupied by the British troops. On the 29th of July the Admiral and Captain Elliot, the British superintendent, proceeded nearer Pekin, to Pechelee, where they arrived on the 10th of August. On the 13th Captain Elliot held a conference with the imperial commissioner Keshen, when it was arranged, at the request of the latter, that further negotiation should take place at Canton. On the 21st of November the admiral returned to Macao, and about the same time Keshen arrived at Canton. No arrangement of the matters in dispute has yet taken place, and the issue may be protracted for a considerable period, owing to the dilatory proceedings of Chinese diplomatists. The object of the British government is understood to be an indemnity for the opium destroyed (valued at 3,000,000*l.*) and for the expenses of the war, the recognition of ministers or envoys, the right of a direct appeal to the imperial court, and greater freedom of trade.

RUSSIAN.

While the other nations of Europe were slowly and gradually seeking a trade at half the distance of the globe, Russia, by its conquests in Siberia, suddenly found itself, in the seventeenth century, involved in territorial disputes with China, at a distance of 5000 miles from its own capital, and more than 2000 miles from that part of China where Europeans were contending for admission on the confines of the torrid zone. The immense regions between these two empires had remained long unclaimed, except by the wandering tribes who made them their temporary habitation. Barren mountains and extended deserts of sand seemed to promise to China an exemption from all attacks in that quarter; each nation supposed the other too distant for schemes of aggression; and the intervening land, like the great ocean, appeared to divide rather than to connect them. Russia had for some time established the fortress and colony of Albazin on the river Amoor, within 1000 miles of Pekin; and China appeared unconscious of the existence of a great empire on her borders. By quietly pursuing their own avocations the Russians might have still retained possession of that fine river, but frequent complaints were carried to Pekin of their robberies and outrageous conduct; and the hunters of the neighbourhood represented to the court of China that they could not continue their tribute of sables unless these outrages were repressed. On receipt of this intelligence some fruitless attempts were made by negotiation to induce the Russians to abandon the place, and upon their failure a troop of Chinese was sent in 1686, who took possession of the fort, and demolished the works, but permitted the Russians to depart peaceably, and even allowed such as were desirous of availing themselves of the privilege to settle at Pekin, where their descendants still reside, though hardly to be distinguished from the Chinese in language, manners, and religion, and retaining no predilection for the country of their forefathers. In the following year the Russians, desirous of retaining the advantages of hunting the sables, which are very numerous and beautiful in this neighbourhood, rebuilt the fort, imprudently resumed their former conduct, and brought upon themselves a second attack from the troops of China. On this occasion the Russians begged for peace, lengthened negotiations ensued, and in 1689 a treaty was signed by which Russia, on condition of being permitted to trade with China, agreed to abandon an extensive territory, to destroy the fortress of Albazin, and to surrender entirely the navigation of the river Amoor, of the extent and value of which they were then ignorant. This river, flowing through a fine country a distance of 30 degrees of longitude from west to east, and emptying itself by a broad and navigable mouth into the Pacific Ocean, would probably have been of far greater value than any profit arising from the trade to China: but the extent, and probably the existence, of a navigation from the heart of its Asiatic possessions to the ocean, were unknown to Russia. The whole was given up, and from that time the court of Pekin has granted to Russia more considerable privileges than have ever been accorded to any other European nation. Russian traders were allowed to proceed to Pekin—an indulgence which, by a subsequent treaty, was extended to caravans; a Russian church was built by the assistance and under the protection of the Chinese government; six ecclesiastics were permitted to reside at the capital for the service of the church, and four students to acquire a knowledge of the language and institutions of China. It was arranged that the resident body should remain at Pekin 10 years, at the expiration of which period they should be relieved by an equal number. All these arrangements have admitted of modifications. The residence of the mission has usually been protracted to 12 years or more, and the arrival of caravans, after being suspended two or three times, has been entirely discontinued since 1755. The most frivolous pretexts have afforded the court of Pekin occasion to suspend all intercourse, and even to imprison the mission.* The trade has been for nearly 90 years merely a trade of barter, carried on solely at Kiakhta, on the frontiers of the two empires, each nation carrying its goods to that mart to exchange with those of the other. The profits of this trade are found valuable to Russia; but, by a fundamental law of China, no nation can trade at two points, and Russia is in consequence excluded from the more valuable Canton trade, though it has at least on one occasion availed itself of the corruption of the subordinate authorities of China to take in and deliver a cargo outside the river as easily and almost as regularly as in the harbour of Canton.

As Russia has not only had commercial but territorial questions to arrange with China, there is no European power which has sent so many embassies to that country. We can only specify the principal embassies, and notice some points of interest which occur in the history of the intercourse between the two nations.

The Tungousi were the first from whom the Russians heard of China. They were then unacquainted with the horse, but their description stated that they had seen it, with riders, in the Chinese empire.†

In the year 1619 the Russian governor of Siberia sent to the Emperor Michael Fedrowich two letters, one from the Altine Czar, and the other from the Emperor of Catay, which latter there was no person in Tobolsk able to translate. It had been brought by two Russian cossacks, who had found their way to China thus:—They went from Tomsk (Tomo) to Kirgis in ten days, from whence, in half a day, they reached the dominions of the Altine King, where those of Russia ended. They travelled through his states five weeks, and then reached the country of Sheremugaly, where a woman reigned; and after journeying in this country for four days they arrived at the empire of Catay. They there saw a stone wall fifteen fathoms high, along which they walked for 10 days, when they came to a gate where 3000 men were on watch, and where they saw great pieces of ordnance adapted to carry shot as large as a man's head. Strangers with merchandise came to traffic at the gate; the Altine men came to sell horses there, but only a few were admitted within the gate. The whole journey from Tomsk to Catay occupied 12 weeks; and it took the adventurers 10 days more to reach the great city to which they were conveyed. On their arrival they were lodged in the house for ambassadors; and on the fourth day after their arrival a secretary came to them, attended by 200 well-dressed men mounted on asses. This personage, after having feasted the Russians, intimated that he was sent from the emperor to ascertain the objects which brought them to Catay. They answered that their emperor had sent them to discover the dominions of Catay, and to see the king thereof. But the man replied, "It was not the manner of Catay to come before the king without presents; and though your white emperor had but sent by his first ambassadors to our king something of no great value, our king would have sent him many precious things, and dismissed you, his ambassadors, honourably; but now he only sendeth this letter to your emperor."* This was the letter which no man at Tobolsk was able to translate. There seems no doubt that the great city to which they came was Pekin; their description agrees pretty well with it. Purchas had some doubts about this, because their account makes the capital nearer to the great wall than the statements of the Jesuits seemed to authorise; but our present information enables us to verify in this particular the account which the Russian adventurers furnish.

As the territorial negotiations to which we have already adverted were conducted in Tartary, whither the Chinese sent their envoys, and the details are not generally interesting with reference to China, we may pass them by, and come down to the mission of Ysbrants Ides in 1692. This ambassador was sent by Peter the Great to endeavour to establish the trade between Russia and China upon a firmer and more regulated footing. Ysbrants, after a long and difficult journey through Siberia, reached the Mongolian frontier, where he was politely received by a Chinese mandarin, and conducted, with his suite of ninety persons, to Pekin. Ysbrants, like other travellers, records his admiration of the great wall, and of the forts which he passed in his way to the capital. The embassy on their arrival felt it their first duty to return thanks to God for having brought them in safety to the desired place without the loss of more than one man. In a few days the ambassador was admitted to an interview with the emperor Kang-he, when he delivered his credentials. He was placed on the left hand of the throne, and his retinue on the right, and the usual entertainment was served up. Several "low reverences" are mentioned as having been performed on presentation to the emperor, and on receiving cups of tea and wine which he sent to them; but it is not expressly said that this low reverence was the same as that performed by the Chinese. Another time he was invited to a banquet, or rather to eat in the imperial presence. He was seated cross-legged near the throne, and received from the emperor's table several dishes, and pronounces them to have been very palatable. The questions which the emperor put to him indicated a larger measure of intelligence and information than has often been exhibited by Chinese emperors, whose questions and remarks on such occasions have generally been of the most puerile description. At the audience of leave the herald, or master of the ceremonies, cried *morgoo bau*, "knock head," and instantly the whole congregation were thumping their heads upon the floor before the "Son of Heaven." Ysbrants does not say, but leaves it to be understood, that he was in the number of the worshippers. He does not state the actual result of his embassy; but he was treated with great affability by the emperor, and dismissed with many presents. He, perhaps, saw more of Pekin than any other ambassador, as he was left at perfect liberty to walk about the town, in any direction that he pleased.*

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* The drunkenness and ill-conduct of the Russians has usually been the alleged cause, though sometimes the Chinese government has been more seriously offended at the protection afforded by Russia to revolted tribes of Mongols. But even China has ceded to motives of expediency, and the intercourse has always been renewed.

† Purchas, vol. ii. p. 546.

* Purchas, vol. iii. p. 798—801.

Renewed territorial disputes concurred with the wish to promote a commercial intercourse in causing Peter to send another embassy to Pekin in 1719. The charge of this mission was intrusted to Leoff Vassilovich Ismaïloff; and its primary objects were to settle, once for all, the boundary question, and to establish the caravan-trade on a permanent footing. The embassy was met on the frontiers of Chinese Tartary by the officer appointed to conduct them to Pekin. This person, becoming aware that there were several females in the party, strongly objected to their being taken to the capital, where, he said, there were women enough already, and no more were wanted; and where, above all, there was no precedent that an European lady had ever been admitted. He therefore wished to send forward to refer the subject to the emperor; but as this application to court would have seriously delayed the progress of the mission, the ambassador thought it best to send the women back to Russia.

After the embassy commenced crossing the desert of Shamo, they were forty days without seeing a single house. The country which they passed was a perfect desert, covered with sand and pebbles, and without any trace of cultivation; only a few Mongol tents here and there relieving the monotony of the scene. In the course of their journey over this desolate region snow also fell abundantly, and it was often impossible to procure fuel to protect them from the cold when at rest. Their hardships did not terminate with their entrance into China Proper, as most of the cities through which they had to pass had just before been overthrown by an earthquake.

They were well received at Pekin. Their entrance was with great military parade, and the Chinese officers vied with one another in doing honour to the embassy. After all this Ismaïloff was not a little astonished to find the door of his hotel barred during the night, and sealed with the imperial seal. He remonstrated about this with the functionary in charge of the embassy; but that personage thought proper to declare his perfect ignorance of the occurrence.

The Chinese contrived to get from the ambassador a copy of his credentials before they were delivered, which, according to Gutzlaff, is the surest way to frustrate a mission, and render its object contemptible in the eyes of the Chinese government. Ismaïloff seems to have been the first European ambassador who demurred about the kotow. The point was insisted upon by the Chinese as indispensable: they said it was but reasonable that he should comply with the customs of the court to which he came; and he was assured that whenever an ambassador was sent from China to the Russian court it would be part of his instructions to conform in every respect to the ceremonies which he found in use there. The ambassador, however, was inflexible, and the time for the audience arrived without any satisfactory understanding having been come to on this subject.

The embassy proceeded to the audience on horseback. On their arrival at the palace they found all the ministers of state and officers belonging to the court seated cross-legged upon fur cushions in the open air before the hall of audience. Places among these persons were assigned to the gentlemen of the embassy, who therefore sat down, and remained there about a quarter of an hour on a cold frosty morning before the emperor made his appearance. He entered by a back door, and seated himself upon the throne. The ambassador was then introduced to the monarch, who, seeming to dispense with all formalities on this occasion, touched the credentials with his own hand, and inquired after the health of the Czar. The ambassador was delighted at having thus favourably escaped that bugbear the kotow, when, as they were being re-conducted to the hall, the loud voice of the master of the ceremonies suddenly pronounced the ominous words "*morgu bos*," and instantly the Russians were compelled to kneel thrice, and strike their heads nine times against the ground; nor, taken as they were by surprise, were they able to expostulate or offer any resistance. It is very likely that the kotow was intended to have been similarly extorted in the case of Lord Amherst.

When Kang-hy—for it was the same emperor who had received the last embassy—had been satisfied on the point of the kotow, it seems to have been his endeavour by the kindest attentions to make the ambassador forget the degradation into which he had been surprised. He took Ismaïloff by the hand, and talked familiarly with him on different subjects. He talked about Peter, whose doings the old monarch appeared to find a difficulty in understanding, and seemed particularly horrified at his exposing his person to so many dangers upon the sea, where no valour could avail. Kang-hy, indeed, seems to have been pretty well informed concerning the measures and the character of Peter, and to have conceived a considerable degree of esteem for him, without being able exactly to understand his principles of action. The ambassador had several subsequent interviews with the emperor, and conversed with him on various subjects. Kang-hy seemed anxious to understand the character and measures of Peter; and his own discourse, as is usual with old men, turned much upon the vanity of life, and the necessity of dying at peace with God and man: but what perhaps pleased the ambassador better than these moral reflections was the wish expressed by the emperor to draw closer the bands of friendly intercourse between China and Russia.

Ismaïloff and his suite were allowed full opportunity of investigating whatever interested them at Pekin. The emperor himself, indeed, seemed to take a pride in exhibiting to their inspection the finest productions of Chinese art, and of affording proof to them of the skill of his subjects. In order to impress the strangers with an idea of their skill in the use of the bow, the emperor invited them to an imperial hunt, in which Kang-hy, who was then upwards of seventy, gave ample proof that he was still an able and vigorous sportsman.

At his departure the ambassador received an imperial letter, addressed to the Czar. This letter was rolled up and wrapped in yellow silk, and tied to the arm of a man, who was carried in procession before the embassy. All the Chinese who met the man with the letter on his arm stood still, and those on horseback dismounted, to testify their reverence for a letter coming from their sovereign.*

Before Ismaïloff left Pekin he obtained permission of the emperor, notwithstanding the opposition of the mandarins, to leave his secretary, De Lange, behind him as resident minister. This gentleman had a miserable life of it after Ismaïloff was gone. The mandarins, who looked upon him as a spy on their actions, did all in their power to disgust him with his situation, by subjecting him to numberless petty annoyances, and doing all in their power to obstruct the execution of the commercial treaty which Ismaïloff had concluded with the emperor. De Lange, however, after having in vain expostulated, gained more attention by assuming a very high tone, and acting with great firmness. Ultimately a serious quarrel between the governments, on account of some Tartars who had left the Chinese for the Russian territories, occasioned De Lange to be sent from China; and an approaching war was only prevented by the death, first, of Kang-hy, and soon after of Peter.

Subsequent treaties between Russia and China established the trade between the two countries on its present footing; and the only following embassy that seems to require our notice was that of Count Golovkin, in 1805. This was a most splendid embassy, composed of persons belonging to the principal families in the empire, who carried with them numerous and valuable presents to the court of Pekin. However, on their arrival at the Chinese frontier, they were required to reduce their number, as there was no precedent of so numerous a retinue on any former occasion. This and other difficulties delayed the march of the embassy until January, 1806, when they crossed the frontiers. The season had then become most inclement; mercury froze twice; and as there was no other shelter than that of felt tents, the embassy suffered most severely. On their arrival at Ounga the count was sounded as to his intentions with respect to the kotow, when he most decidedly declined to perform this ceremony, justifying his refusal by the example of Lord Macartney. The emperor, Kea-king—the same who reigned in the time of Lord Amherst's embassy—in his indignation that a barbarian tribute-bearer should decline this mark of respect to the Son of Heaven, directed the embassy to be sent back from Ounga. This was accordingly done. It seems to us very probable that this conduct of Golovkin, and his pleading the example of Lord Macartney, determined the Chinese to insist on the performance of the kotow by Lord Amherst.*

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* There are two accounts of this embassy; one by Adam Brand, the secretary, a translation of which was published at London in 1698; the other account, by the ambassador himself, has also been translated, and is now most usually found at the end of Le Brun's Travels. See also Gutzlaff's account of this mission in his "History of China."

* Our countryman, John Bell of Antermony, was one of the gentlemen attached to this embassy, and this account of its proceedings is derived from his "Journey from St. Petersburg in Russia to Pekin in China;" and the notice of the subsequent transactions of De Lange is also drawn from his translation of the journal which that gentleman kept during his residence at Pekin. A writer in the 'Penny Cyclopædia' says that Bell's account of the journey and of what he saw and learned during his residence at the court of China is "one of the best and most interesting relations ever written by any traveller."

The trade carried on at the frontiers by private individuals after 1755 soon became more profitable than that of the caravans sent to Pekin by the Russian government. The Pekin merchants themselves were compelled to bribe the mandarins and other official persons, in order to obtain permission to visit the Russian factory; and in consequence of these and other restrictions and impediments the Russian furs were often sold at a loss, while the produce and manufactures of the Chinese were enhanced in price. When the trade was established at the frontier, under greater freedom, it not only became more profitable, but rapidly increased. The persons engaged in it, finding themselves under the necessity of being on the spot, erected in the first instance temporary habitations, such as huts and tents, which were afterwards converted into regular dwellings; and two towns quickly arose upon the site appointed by the treaty as an entrepôt and place of barter. The name of the Russian town is Kiakhta, from the name of the river which washes its walls; and the Chinese town is called Maïmatchine, or the "town of sales and purchases." The following account of these trading towns, and of the important commerce carried on there, is from the Appendix to the Marquis of Londonderry's 'Tour in the North of Europe' (1836-7):—

"These two towns are separated only by an esplanade of small extent: on one side, to the north, appeared a gate of European architecture, a Russian guard and sentinels; on the other was seen one of those fantastical edifices which the Chinese erect at the entrance of their towns, having its walls covered with grotesque sculptures, inscriptions, and paintings in gaudy colours. At Kiakhta regular streets are formed of those neat houses which compose the provincial towns in European Russia; and near the vast storehouses belonging to the American Company, or the shops established by the rich merchants of Moscow, Vologda, and Koursk, rise the cupolas and bells of several churches. At Maïmatchine, on the contrary, the streets, gloomy and narrow, are formed by walls with no windows in them. The court-yards enclosed by these walls have round them small dwelling-houses, warehouses, and shops, in which is seen all the rich produce of China.

"The intercourse between these two towns, so near to and yet so different from each other, becomes daily greater in proportion as the Russian trade, which is carried on almost exclusively by a few commercial houses of Moscow, Vologda, and Koursk, increases. An immense quantity of tea is annually imported into Russia by this way. The superior qualities are more appreciated and in greater demand there than at Canton itself, while a commodity, as yet hardly known in Europe, viz. tea in cakes, forms one of the most important articles of the Kiakhta trade. These cakes are composed of a mixture of tea and of the leaves of a plant of the saxifrage genus, found in the southern part of the Mongol steppes, and which is first steeped in lamb's blood. After being well kneaded and pressed in cakes, the mass is dried in an oven. The manner of its use is equally singular: these cakes are dissolved in boiling water mixed with meal, fat, and salt. This tea is in great request throughout all the nomadic tribes of Central Asia, and the Russian merchants buy at Kiakhta considerable quantities of it, to be again sold at the fair of Nijny-Novgorod, to the wandering Tartars or Mongols subject to Russia.

"Next to tea, Chinese cottons were the most remarkable article imported—especially nankeens—which were sold in packets containing ten pieces each; these packets, which were called *tounes*, might be said to represent the numerary notation, or rather the circulating medium, the value of goods being generally expressed in numbers of *tounes*, or tens of *tounes*. Within these few years, however, great changes have taken place; for the Chinese merchants now buy of Russian traders cotton, stuffs, and even nankeens, perfected in the Russian manufactories.

"From China are also received silks, especially flowered damasks, crapes, cotton, raw silk, rhubarb, camphor, musk, China ink, and a quantity of other drugs; and lastly porcelain, and that beautiful lacker-work, the secret of which seems exclusively their own.

"In exchange the Russian merchants supply them with furs; and this branch of trade, at all times important, has become still more so since the American Company has forwarded to Kiakhta, by way of Okhotsk, the annual produce of the chase, regularly followed under the direction of their agents in the Russian American colonies. The beautiful beaver-skins they send are even preferred by the Chinese to every other fur. Amongst the other articles of export, the most important are, leather, glass, steel, and within these few years Russian manufactures, the demand for which is always increasing, as proved by the following table of exports in three different periods:—

	1825.	1830.	1835.
	Roubles.	Roubles.	Roubles.
Linen to the amount of	70,119	139,231	203,115
Cotton stuffs . .	1,248	84,523	933,876
Cloths . . .	268,421	1,431,550	2,266,641

"Upon the arrival of the first caravans, which takes place at different times between the end of the month of December and the commencement of February, the greatest activity prevails at Kiakhta and Maïmatchine. The Chinese merchants then repair to Kiakhta, proceed to the warehouses, examine the goods exposed for sale, agree upon the price, and, after having affixed their seal to the bales they have chosen, invite the Russian merchants to accompany them to Maïmatchine. There, in the bazaars of the Chinese town, the Russians, rendered circumspect by experience, place the goods they select in exchange under the care of a sentinel, who is not to lose sight of them until the exchange be actually effected; but, in spite of all their precautions, they are often cheated. The Chinese, far from imagining that good faith and honesty are the natural bases of commerce, endeavour to gain an advantage by every means which cunning can devise. Sometimes they endeavour to sell their neighbours old tasteless tea, by concealing it under a layer of fresh: as to the silks and cottons, they sell them in packets; they are made up of pieces differing in quality and colour, and as the sellers never permit any choice or selection, a too confiding purchaser is frequently astonished at finding in the middle of the packet he has just bought boards whose edges are cut and painted with much art, in order to imitate the pieces of stuff.

"It must not, however, be supposed that the roguery of a few individuals has been able to operate unfavourably to the progressive increase of the trade of Kiakhta. The following table will show its great improvement and activity of late years:—

1836.	
	Roubles.
Russian merchandise [illegible]ed, amounting to	4,162,437
Transit	1,339,228
Total exports	5,501,615

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* Gutzlaff's History of China.

1830.	Roubles.
Russian merchandise exported, amounting to	4,415,024
Transit	1,983,573
Total exports	6,398,597

"The trade of Kiakhta being that of barter, the imports necessarily balance the exports. In the transit merchandises Polish manufactures are included.

1835.

EXPORTATION.—*Russian merchandise.*

	Roubles.
Skins to the amount of	2,229,377
Leather	742,481
Linen	203,115
Cottons	933,876
Cloths, 718,221 archines	1,799,691
Corn, iron, steel, copper, glass, and other articles	1,446,148
Total	6,414,688
Polish cloths, 206,301 archines	466,950
Transit merchandises	545,731
Grand total	7,427,369

IMPORTATION.

Tea, 199,233 poods, to the amount of	6,909,149
Silks	208,599
Cottons	122,726
Drugs, &c.	186,895
Total	7,427,369

"The Chinese mostly use camels for the conveyance of goods, traversing the steppes in long caravans. The Russians chiefly transport by water the merchandise which they send in summer, or oftener in spring, from Kiakhta to Europe. After descending the Salenga and crossing the Baikal lake, they arrive at Jenisseck by following the course of the Angara. From Jennisseck the goods are sent overland to the banks of the Ket, and from thence they reach Tobolsk, the central entrepôt of Siberia. From Tobolsk they are sent in sledges, either to the fair of Irbit, which begins on the 5th February, or, being embarked in vessels, arrive the following summer at Nijny-Novgorod."

FRANCE.

The intercourse of France with China affords no facts of much interest separately from the exertions of the Jesuit missionaries of that nation in propagating the Catholic faith in that remote country. Father Roger, a missionary of this order, first preached the Gospel in China in 1581. Between 1581 and 1681, 126 European Jesuits were employed in the missions of China, many of them men of science and intelligence, to whom Europe is indebted for much valuable information respecting the internal condition of this empire. Du Halde and Père Amiot deserve especially to be mentioned. The generals of the mission chose men acquainted with mathematical and mechanical sciences, which they knew were in request at Pekin, and thus they obtained a footing and an influence at the emperor's court which no other Europeans have ever acquired. They were allowed to build churches; and although many storms of persecution have burst over their heads, the Jesuits have never entirely lost their hold of the country. Their influence is now comparatively small, but their house at Pekin still exists, new churches are occasionally opened, and there is a considerable number of Catholics in the empire.*

The intercourse of the smaller European states with China has been exclusively one of trade, and has never been of much importance. The intercourse of America with China has been also strictly commercial; but as it has now acquired an importance second only to that of Great Britain, it may be well to state, in this place, some facts connected with its origin and progress.

UNITED STATES OF AMERICA.

The trade of the United States with China may be considered to have resulted from the active commercial spirit which sprung up after the establishment of the national independence. The first American vessel visited China in the year 1784. In the four following years not more than one or two other vessels appeared; but in 1788 a large ship, called the 'Alliance,' which had been employed as a frigate during the war, made the voyage from Philadelphia to Canton without once letting go her anchor, and without any other assistance than a general chart of the world. The trade went on increasing, and acquired its present relative importance during the European wars which arose from the French revolution, when the neutrality of the United States so greatly enlarged all their commercial transactions, the foreign commerce of the world being then almost entirely engrossed by Great Britain in virtue of her naval power, and by the United States in virtue of their neutral position.

The Americans were the first people who attempted to carry on the commercial intercourse with China without the intervention of an organized establishment. The American flag was first hoisted at Canton in 1802. Mr. Davis says, "The consular agent for the United States, who was in all cases appointed from among the American merchants resident in China, was simply a commercial officer, and called a 'tae-pan,' or factory chief, by the Chinese. He received no salary whatever from his government, but was permitted to levy fees in the transaction of business with his countrymen, besides trading on his own account." The trade of the United States was interrupted during the war with England; but notwithstanding the American flag continued to fly at Canton.

The trade between the Americans and the Chinese has only been once suspended in all the period since it was opened. This suspension was in the year 1821, and only lasted for a few days. As the occasion was one of considerable interest, and tends to illustrate the character of the Chinese, we here introduce it.

An Italian sailor named Terranova, on board an American vessel, threw a pot at a poor Chinese boatwoman, on which she fell overboard and was drowned. By the law of China manslaughter is punished with death as well as murder, only a distinction is made in the mode of punishment, the homicide being strangled, whilst the murderer is beheaded. Acting on this law, the viceroy of Canton required the American consul to deliver up the sailor for trial. As this was refused, a stop was immediately put to the trade, and both the security-merchant and the linguist of the vessel to which the sailor belonged were arrested. A negotiation was then commenced on the subject between the Chinese authorities and the Americans, and the latter consented to his being tried on board the ship. Mr. Davis ('Chinese,' p. 44) gives the following account of the subsequent proceedings:—"After this mockery of justice, in which not a single witness was examined for the prisoner, and the offer of Dr. Morrison to interpret was refused by the Chinese, the poor man was declared guilty, and put in irons by the Americans at the desire of his judges. In a week after complaints and discussions arose among those whose trading transactions were suffering from the delay; and when it was required that the Italian should be delivered up for a second trial at Canton, the Hong merchants were told that they might take him. In the words of Dr. Morrison, he was 'abandoned by those who should have protected him.' All Europeans, as well as Americans, were excluded from his mock trial, and by daybreak next morning he was hurried to the place of execution, in opposition to all the delays and forms of Chinese law, and cruelly strangled. The Pekin government was at the same time informed that he had been tried in open court, and that the American consul had witnessed the execution!"

Since this affair, and a little difference soon after about an American ship which had opium on board, the trade of the United States with China has met with no obstruction; and Gutzlaff informs us that many American vessels have sailed from Canton for Mexico, Peru, and Chili, between which places and China a very brisk trade is now carried on.

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* See 'Jesuits' and 'Missions' in the 'Penny Cyclopædia.'

DANTE AND PETRARCH.

By ANDRÉ VIEUSSEUX.

"But where repose the all Etruscan three—
Dante, and Petrarch, and, scarce less than they,
The bard of prose, creative spirit! he
Of the hundred tales of love—where did they lay
Their bones, distinguish'd from our common clay
In death as life? Are they resolv'd to dust,
And have their country's marbles nought to say?
Could not her quarries furnish forth one bust?
Did they not to her breast their filial earth intrust?

"Ungrateful Florence! Dante sleeps afar,
Like Scipio, buried by the upbraiding shore:
Thy factions, in their worse than civil war,
Proscribed the bard whose name for evermore
Their children's children would in vain adore
With the remorse of ages; and the crown
Which Petrarch's laureate brow supremely wore,
Upon a far and foreign soil had grown,
His life, his fame, his grave, though rifled—not thine own.

"Boccaccio to his parent earth bequeath'd
His dust—and lies it not her great among,
With many a sweet and solemn requiem breath'd
O'er him who form'd the Tuscan's siren tongue?"
('Childe Harold,' Canto IV.)

The services of Boccaccio to literature are briefly noticed in these introductory remarks. As the events of his life are less important than those of Dante and Petrarch, it has been thought better to devote this Number chiefly to the lives and writings of Dante and Petrarch only.

Dante, Petrarch, and Boccaccio were natives of the same country, they flourished in the same century, and were all instrumental in forming and refining one of the principal and finest languages of modern Europe. Each of them excelled in his respective branch of literature. Dante produced the first regular poem in the popular idiom; Petrarch was the prince of amatory and lyric poets; and Boccaccio was the best writer of tales. But these are not their only merits. They were also universal minds, who, in an age of comparative darkness, took lofty and extensive views of the great concerns of the human race—religion, politics, and morals. Dante was a statesman, and a political leader and writer; Petrarch was also engaged in state affairs, and was often consulted by the first princes and statesmen of his age; and Boccaccio was employed by his countrymen in several missions, and discussed in his Latin works several important questions of politics and ethics. They all contributed to the revival of classical literature in the west of Europe—Dante by his writings, in which he brought into notice the Roman classics; and Petrarch and Boccaccio, both by their works, and still more by their indefatigable exertions in collecting, collating, and transcribing MSS. of Greek and Latin authors which lay forgotten in the dust of monastic libraries, and of many of which, but for their exertions, probably not a copy would have come down to us. Petrarch and Boccaccio restored the long-neglected study of the Greek language, and through their recommendations and co-operation chairs of Greek were founded in Italy. "All that we have of Greek here, we owe it to Boccaccio," is the observation of his godson and earliest commentator, Manelli.

After the fall of the Western Empire, and especially after the final withdrawal of Italy from the sway of the Eastern Emperors, through the conquests of the Longobards, the Franks, the Saracens, and the Normans, the Greek language and literature became obsolete, except perhaps in some remote convent of Calabria or Sicily. With regard to Roman literature, the written language of Italy was still a corrupt Latin, in ages when priests and monks were almost the only persons who could write. The Roman classics, especially the prose-writers, were neglected, and at last forgotten, partly because they were not understood, and partly on account of prejudice against them as the works of heathen writers. The tenth century was the true iron age of Italy. There are hardly any chroniclers of that time, and we are still left in much obscurity as to the events of that period. The whole Peninsula was in an indescribable state of confusion, ignorance, and wretchedness. The scandalous scenes that were taking place at Rome at every new election of a pontiff—the wars of the feudal lords of Lombardy for the disputed succession to the crown of Italy, claimed by Hugh of Provence, Rudolf of Burgundy, and Berengarius of Ivrea—the devastating irruption of Hungarians from the north, and of Saracens from the south—the tyranny of the delegates of the distant and imbecile Byzantine court, which still kept dominion over the southern part of the Peninsula—the corruption of the clergy, the ignorance of the laity, and the ferocity and wretchedness of the people in general—all these had concurred in extinguishing every spark of learning or desire for learning. A report became current in that age that the end of the world was at hand—a seemingly befitting consummation of such a series of horrors—and the apprehension of such an overwhelming catastrophe deterred men from wasting the rest of their days in acquiring knowledge which they would never want.

In the following (eleventh) century a ray of better days to come seemed to dawn on the Italian Peninsula. In the north, the German Emperors, having assumed a prescriptive right to the crown of Italy, thereby put some sort of check on the turbulence of the great feudatories; while, on the other hand, they facilitated the emancipation of the towns from feudal vassalage. In the south the astonishing courage of a band of Norman warriors founded a new monarchy, and snatched the fair regions of Apulia and Campania from Byzantine misgovernment. In the same century the monks of Monte Casino and their meritorious abbot, Desiderius, employed themselves in multiplying MS. copies of the histories of Josephus, Tacitus, Jornandes, Gregory of Tours, of some of Cicero's works, and of Vitruvius, as well as of Terence, Ovid, Horace, Virgil, and other poets. Then came the great dispute between the ecclesiastical and the lay powers, the church and the empire, which gave employment both to the sword and the pen. Rome, under a succession of able pontiffs, became again the centre of European policy. Most of the sovereigns of those times were new men, conquerors and usurpers, or sons of usurpers, and they strove to legitimate their power by obtaining the papal investiture, even on the condition of becoming tributaries to the papal see.

In the twelfth century a long struggle took place between the German emperor, Frederic I., and the Lombard cities, supported by the popes, which terminated in the emancipation of the latter by the peace of Constance. The Tuscan, Genoese, and Venetian republics were already free, and flourished by trade; and their intercourse with the East, joined to the wars of the Crusades, brought fresh stores of information to the Italian shores. The Commentaries of Averroes revived the study of philosophy, and the Pandects of Amalfi that of Roman law, of which Irnerio of Bologna and the Tuscan Accursio became expounders. Graziano, another Italian, was the founder of the canon law. The arithmetical symbols were introduced into Europe by the Arabs, the musical scale was invented by Guido d'Arezzo; and the lessons and writings of Lanfranco of Pavia, Anselmo of Aosta, and Pietro Lombardo, gave a new impulse to theological and philosophical studies.

It was, however, the thirteenth century that opened a new æra of learning in Italy. Frederic II., emperor and king of Lombardy, Apulia, and Sicily, was the great restorer of public studies. An extraordinary prince, the greatest king that Italy had seen since the time of Theodoric, although tainted with the faults of the age and some personal vices, he had a lofty intellect and expanded views.—Frederic founded the University of Naples, restored that of Salerno, opened schools in Palermo and other parts of Sicily, promoted the study of natural history, and wrote himself a work on birds, 'De Arte Venandi cum Avibus,' in which he gives a kind of course of ornithology. He caused several of the works of Aristotle to be translated into Latin. His chancellor, Pietro delle Vigne, who had studied at Bologna, was both learned and eloquent, and with his assistance, and that of another learned man, Taddeo of Suessa, Frederic published a code of 'Constitutions, or Laws, for his kingdom of Sicily and Apulia, in which he collected those of his predecessors, and added others of his own, several of the latter being remarkable for a spirit of justice and humanity not commonly found in the legislation of those ages. Pietro delle Vigne has left six books of Latin letters, which are interesting for the history of the time.

Frederic, an Italian by birth, was one of the first who wrote Italian poetry, nearly a century before Dante; and his son Manfred, according to the testimony of the contemporary chronicler, Spinello, "used to walk out in the cool of the night through the streets of Barletta singing verses in company with two Sicilian musicians, who were great romancers." 'The court of Frederic,' says one of the 'Novelle Antiche,' 'was resorted to by men of talent, especially poets and eloquent speakers, and he was very affable and generous to them.' The popular dialects of Italy were then, as they are now, the language of common conversation, Latin being only the written language; but Frederic and his court were the first to encourage the use of writing in the vulgar idiom, which thus became refined, and was styled "lingua aulica' or "cortigiana," and also "Sicilian," because the first writers in it lived at the court of Sicily.

In the same age with Frederic lived Bonaventura, a distinguished divine, and Thomas Aquinas, who was both a divine and a philosopher. In the second part of the same century lived Guitton d'Arezzo, Guido Cavalcanti, Guido Guinicelli, and others, who wrote Italian poetry. Spinello, Malespini, and Dino Compagni, wrote histories of the times also in Italian. Pier Crescenzi wrote a work in Latin upon agriculture, and Andrea Bonello of Barletta wrote treatises and commentaries on the Longobard and Roman laws.

This was the age in which Dante was born and educated; but his literary career belongs to the following or fourteenth century, to which also belong Petrarch and Boccaccio, who were Dante's juniors by many years.

DANTE.

DANTE, or DURANTE, ALIGHIERI, was born at Florence A.D. 1265. By a familiar contraction of his Christian name, Durante, he was called Dante, by which name he has become generally known. His family was noble; he was a great grandson of Cacciaguida Elisei, who married a lady of the family of Alighieri of Ferrara, and whose children assumed the arms and the name of their mother. Cacciaguida accompanied the emperor Conrad III. in his crusade, was made a knight, and died in battle in Syria A.D. 1147. In the 'Paradiso' (cantos 15, 16, and 17), Cacciaguida is made to relate to Dante his adventures, with an interesting account of the state of Florence and the primitive manners of its citizens in his time, before the breaking out of the great feud between the Guelphs and the Guibelines." Dante's father, Aldighiero Alighieri, died while Dante was yet a child. As Dante grew up he showed great capabilities for learning, in which he was assisted by Brunetto Latini, a celebrated scholar of the time. He became also intimate with Guido Cavalcanti, a young man of an inquisitive and philosophical turn of mind. It is asserted by some that Dante studied at Bologna, though this is not clearly ascertained; it is, however, evident from his works that he had read deeply, and was imbued with all the learning of his times. He fell in love at an early age with Beatrice Portinari, of an illustrious family of Florence. His attachment however appears to have been purely platonic, but it served to purify his sentiments; the lady herself died in 1290, when Dante was about 25 years of age, but he continued to cherish her memory, if we are to judge from his poems, to the latest period of his life. It must have been about or a little before the time of Beatrice's death that he wrote his 'Vita Nuova,' which is a series of canzoni intermixed with prose, in which he speaks of his love in a spiritual and platonic strain, and of the change it produced in him, which was the beginning of his 'new life."

The party of the Guelphs was at that time predominant at Florence, having some years before driven away the Guibelines with the assistance of the pope and of Charles of Anjou, king of Naples. But in the neighbouring city of Arezzo the contrary had occurred, the Guibelines, with the bishop at their head, being the stronger party, had turned the Guelphs out of the town. It may be observed that the names of these two rival factions, which in their origin designated the respective partisans of the emperors and popes, lost much of their primitive meaning as the quarrel between the church and the empire subsided by the extinction of the house of Suabia. The rivalship however between the leading families of each party continued, mutual offences were remembered, and the remembrance was bequeathed from father to son, so that Guelphs and Guibelines were ever ready to fight in every part of Italy, not for the supremacy of church or empire, but for their own municipal superiority in their respective communities. And such was the ambition of domineering which prevailed among the wealthier families, that after the Guelphs had driven the Guibelines out of a town, or *vice versâ*, the leaders of the party that remained in possession of the place began to quarrel among themselves, and it not unfrequently happened that some of them courted the assistance of the emigrant rival faction against their own colleagues. This occurred among other instances at Florence in 1280, when Bonaccorso degli Adimari, one of the Guelph leaders, connected himself by marriage with the Guibeline count, Guido Novello, which led to a temporary truce between the two parties. But the Guelphs soon after began to persecute the Guibelines again. The usual fate of the losing party in such cases was exile, with confiscation of property; and, in case of armed opposition to or contravention of this sentence, torture and death were freely inflicted, and the houses of the obnoxious individuals were not unfrequently set on fire or razed to the ground. The Guelphs of Arezzo, being driven out of their town, applied to those of Florence for assistance. This led to a war between Florence and Arezzo, in which the Guibelines of the latter place were defeated at Campaldino in June, 1289, when their bishop was killed. Dante was present at this engagement, and soon after his return to Florence he married Gemma Donati, of a powerful Guelph family. He now became a candidate for civic honours and offices. The citizens of Florence were classed in three ranks:—1st, grandi, or old families, formerly feudal nobles, many of whom had still feudal estates in various parts of the country, though in the town they enjoyed by law no exclusive privilege: 2nd, popolani grassi, or substantial citizens, men who had risen by trade, and many of whom were wealthier than the nobles; 3rd, piccioli, or inferior tradespeople, artisans, &c. The two last classes, weary of disturbances created by faction, and being directed by some well-meaning men, among whom was Dino Compagni the chronicler, who is the safest guide through this part of Florentine history, had made a law in 1282 by which, the citizens being classed according to their trades, the higher trades, "arti maggiori," chose six priori, or aldermen, one for each district of the city, who were also called "i signori," and constituted the executive. They were renewed every two months. No one could aspire to office who had not his name inscribed on the register of one of the trades. Dante enrolled his name on the register of physicians and apothecaries, though he never exercised that profession.

The institution of the priori did not prevent the town from being distracted by factions, as those magistrates often availed themselves of their brief term of office to favour their friends and court favour with the wealthier citizens. To remedy this, the popular party, led by Giano della Bella in 1293, elected a new officer, called Gonfaloniere di Giustizia, who was to enforce order and justice, and they gave him a guard of 1000 soldiers; they also excluded for ever thirty-three families of the grandi, or nobles, from political office. But a conspiracy of the wealthy families drove away Giano della Bella and his adherents in 1294, and the town again fell a prey to factions. Two powerful families, the Donati and the Cerchi, were at the head of the contending parties, and affrays between their respective partisans occurred repeatedly in the streets of Florence. Both were Guelphs, but the Cerchi were suspected of a bias in favour of the Guibelines, because they were less rigorous in enforcing the penal laws against the latter; and they had also for them the friends of the unjustly expelled Giano della Bella. The pope, Boniface VIII., favoured the Donati as being zealous Guelphs. About this time the town of Pistoia was likewise divided between two factions, called Bianchi and Neri, which originated with two branches of the family of Cancellieri. The Florentines being applied to as arbitrators, several of the more violent partisans were exiled from Pistoia, and came to Florence, where the Bianchi became connected with the Cerchi, and the Neri with the Donati, and from these connexions the two Florentine parties assumed the respective names of Bianchi and Neri. Both, as we have said above, were branches of the great Guelph party then predominant at Florence; but afterwards the Bianchi in their reverses joined the Guibelines, with whom they have been often confounded by subsequent writers. It is necessary to bear these things in mind, in order to understand the history and the political sentiments of Dante. Dante was a Guelph, and connected by marriage with the Donati, the leaders of the Neri. But he was also connected by personal friendship, and perhaps also by a feeling of equity, with the Bianchi, who appear to have shown themselves from the first less overbearing and violent than their antagonists, and to have been in fact the injured party. Dante, being made one of the priori in June of the year 1300, proposed and carried a law by which the chiefs of both parties were exiled for a time out of the territory of the republic. The Bianchi were sent to Sarzana, and the Neri to Castel della Pieve. Some of the Bianchi however soon after returned to Florence, and Dante was accused of having connived at it, chiefly out of friendship for Guido Cavalcanti, who had suffered from the unwholesome climate of Sarzana, and died soon after his return. The Neri, by their agents at Rome, represented to Boniface VIII. that the Bianchi kept up a communication with the Guibelines of Arezzo, Pisa, and other places, and that, if they obtained the preponderance in Florence, they would make common cause with the Colonna, the pope's personal enemies. Through these suggestions, aided by bribes distributed by the Neri at the Roman court, as Dino says, Boniface was induced to give his support to the Neri, and he sent them Charles de Valois, brother of Philippe le Bel, under the plausible title of peace-maker. Charles entered Florence in November, 1301, followed by 1200 armed men. Affecting impartiality at first, he let all the Neri return to Florence, followed by the armed peasantry; new priori were made, all favourable to the Neri, and the Bianchi began to be openly attacked in the streets. The Medici, who were already an influential family among the people, killed one of the Bianchi, and no notice was taken of the murder. A general proscription of the Bianchi now began, connived at by the peace-maker, Charles de Valois. "People were murdered in the streets; others were dragged into the houses of their enemies, where they were put to the torture in order to extort money from them, their houses were plundered and burnt their daughters were carried away by force; and when some large house was seen in flames, Charles used to ask, 'What fire is that?' and those around him answered him that it was some wretched hovel, whilst in reality it was a rich palace." (Dino, *Cronica*, lib. ii.) The house of Dante was one of those that were plundered. Dante was at the time at Rome, whither he had been sent by the Bianchi to counteract, if possible, the suggestions of their antagonists. On hearing the news of the proscription he hastily left Rome, and joined his fugitive friends at Arezzo. In January, 1302, a sentence was passed condemning him to two years' exile and a fine of 8000 florins, and in case of non-payment his property to be sequestered. By a second sentence, dated March of the same year, he and others were condemned, as barattieri, or guilty of malversation, peculation, and usury, to be burnt alive. The sentence was grounded merely on the public report of his guilt, "fama publica," which in this case meant the report of his enemies. This curious document was found in the archives of Florence in the last century, and has been transcribed by Tiraboschi, *Storia della Letteratura*, tom. v., part 2, cap. 2. Dante now began his wanderings, renouncing his Guelph connexions, and wholly intent upon exciting the Guibelines of Italy against his enemies and the oppressors of his country. He appears to have repaired first to Verona, which was then ruled by the family of La Scala, powerful leaders among the Guibelines. But he soon after returned to Tuscany, where the Bianchi and Guibelines now united were gathering their strength in the neighbourhood of Arezzo.

The death of Boniface VIII. in September, 1303, inspired them with fresh hopes. Benedict XI., the new pope, a man of a mild and conciliatory spirit, sent Cardinal di Prato to endeavour to restore peace in Tuscany, but the cardinal was opposed by the ruling faction at Florence, who frightened him out of the town. Florence was left a prey to anarchy, during which a fire broke out which destroyed 1900 houses in June, 1304. The Bianchi and Guibelines thought of availing themselves of the confusion to surprise the town; and some of them actually entered one of the gates, but they were badly supported by those outside, and the attempt totally failed. Dante (*Purgatorio*, xvii.) censures the want of prudence and concord in the leaders on that occasion. He seems soon after to have left them in disgust, determined to regulate himself in future according to his own judgment. He says himself that "it was difficult to say which of the two contending parties was most in the wrong." (*Paradiso*, vi. 102.) Dante appears to have been at Padua about 1306, and in the following year with the Malaspina, the lords of Lunigiana: he was also at times in the valleys of Casentino, and in the mountains near Arezzo; some say he went afterwards to Paris, and remained there some years; others believe that he did not go to France until after the death of Henry VII. in 1313. But his visit to Paris is very doubtful; though in Canto x. of the 'Paradiso' he speaks of a certain Sigieri, professor of that university, and designates the street in which he lived.

Dante made also an attempt to obtain the revocation of his own sentence by writing to his countrymen a pathetic letter beginning with the words—"Popule mee, quid feci tibi?" but all to no purpose. The family of Adimari, who had taken possession of his property, opposed his return. Accordingly in Canto xvi. of the 'Paradiso' he has launched a violent invective against them.

The election of Henry of Luxemburg, as Henry VII., to the crown of Germany revived the hopes of Dante, as Henry was preparing to come to Italy, in order to assert the long-neglected rights of his predecessors as kings of the Romans. The Guibeline leaders were ready to support his claims as imperial vicars, and the Guibeline cities, such as Pisa, were likewise in his favour. In order to strengthen their zeal, Dante, about 1310, addressed a circular letter to the kings, dukes, marquises, counts, the senators of Rome, and all the people of Italy, congratulating them on the prospect of happiness for Italy through the ministry of the pious Henry, who will punish the felons who oppose him, and bestow mercy on the repentant," &c. It was about this time that he wrote his book 'De Monarchia,' which may be considered as a profession of Guibeline political faith: it asserts the rights of the emperors, as successors of the Cæsars, to the supreme temporal power, entirely independent of the popes, who are the spiritual heads of the church. This creed was in opposition to the assumed rights of Gregory VII., Innocent III., and other pontiffs, who pretended to be above all crowned heads, and to have the disposal of thrones and principalities—an assumption which the Guelphs favoured in Italy, in order to keep themselves free from the imperial authority. Both parties in fact acknowledged an external superior, although both wished to rule in their respective communities with as little dependence as possible on the nominal supremacy of either pope or emperor. But there was this difference, that the imperial, or Guibeline party, was mostly supported by the nobles, especially of North Italy, who styled themselves vicars of the emperor, and was therefore more aristocratic in its spirit; while the Guelphs of Tuscany looked upon the pope chiefly as an auxiliary in time of need, whose temporal interference was less direct, and could be more easily evaded, than that of the emperor, so as to admit of a more popular or democratic spirit in their institutions. Such at least was the theory of the two parties, for in reality the Guelph or popular families formed an aristocracy of wealth as much as the Guibelines were an aristocracy of birth and rank. Dante, in his book 'De Monarchia,' is no servile advocate for despotism, for he maintains that sovereigns are made to promote the good of their subjects, and not subjects to serve the ambitious pleasure of their sovereigns. The latter are to rule so as to soothe the wayward passions of men, in order that all may live in peace and brotherly feeling. But still he derives their authority from God, and he quotes, in support of his system, Aristotle, the Scriptures, and the Roman History, agreeably to the scholastic logic of his times. This book, 'De Monarchia,' was burnt at Bologna, by order of the papal legate, after Dante's death.

Henry VII. came to Italy in 1310, was crowned at Milan as king of Lombardy, and the following year he besieged Cremona, Brescia, and other places. It was about this time that Dante, impatient to see the emperor come into Tuscany to put down the Guelphs, addressed to him an epistle which begins thus:—"Sanctissimo triumphatori et domino singulari, domino Henrico, divina Providentia Romanorum regi, semper Augusto, devotissimi sui Dantes Aligherius Florentinus et exul immeritus, ac universaliter omnes Tusci qui pacem desiderant terræ, osculantur pedes." He then entreats the emperor not to tarry any longer on the banks of the Po, but to advance south of the Apennines, and put down the spirit of Guelph sedition at Florence, against which he inveighs in no moderate terms, and which, he says, strives to predispose against him the mind of the sovereign pontiff. He speaks of Florence as revolting unnaturally against her parent Rome, for Dante always affects to consider Rome as still the seat of the empire, and Rome and the Empire are often employed by him as synonymes. This remarkable epistle, of which we had only an Italian version until the Latin text was discovered not many years since in the library of St. Mark, is dated from Tuscia, near the founts of Arno, April, 1311. (Dantis Alighieri *Epistolæ quæ extant, cum notis* Caroli Witte, Padua, 1827.) Henry came into Tuscany, threatened Florence, but without effect, was crowned at Rome, and on his return died suddenly at Buonconvento, near Siena, in August, 1313. This was a terrible blow to the hopes of the Guibelines, and of Dante especially. He now took refuge at Verona, at the court of Cane della Scala, where he appears to have been before, between 1308 and 1310. Cane was hospitable and generous to the Guibeline emigrants, but Dante, with his proud spirit and temper soured by adversity, could ill accommodate himself to the flattery of courts and the flippancy of courtiers, and he is said to have had some unpleasant bickerings with the people about Cane.

In a well-known passage of his poem he feelingly deplores the lot of the exile who is constrained to eat the bitter bread of patronage:—

> "Tu proverai sì come sà di sale,
> Lo pane altrui, e com' è duro calle,
> Lo scendere, e 'l salir per l' altrui scale."
>
> ('Paradiso,' Canto xvii.)

With Cane himself, however, he seems to have continued on good terms: he speaks very highly of his hospitality in a passage just preceding the above lines, and there is a cordial letter from him to Cane, written probably in the latter years of his life, in which he dedicates to him his 'Paradiso,' the latter part of his great poem, and explains the object of it. He says that he styled it a comedy, because, contrary to the style of tragedy, it begins with sorrow and ends with joy; he distinguishes between the literal and the allegorical sense of his verses, and observes that his poem may be called polysensuum, having many meanings. He tells Cane the title of his work:—'Incipit Comœdia Dantis Aligherii, Florentini natione non moribus.' But the title of the part which he sends to him with the letter is:—'Incipit Cantica tertia Comœdiæ Dantis quæ dicitur Paradisus.' It is evident from this and other circumstances that Cane had not seen the rest of the poem; indeed it is not likely that Dante ever communicated the whole of it to any one during his lifetime, as it would have made it impossible for him to have found refuge anywhere, as Foscolo closely argues in his very elaborate and very critical 'Discorso sul Testo di Dante,' which is one of the most judicious and scholarlike commentaries on that poem.

We proceed to give a brief account of this celebrated poem, the 'Divina Commedia.'

The poet describes himself as having wandered out into a forest on Good Friday of the year 1300, being then in his thirty-fifth year ('Inferno,' Canto i., v. 1, and xxi., v. 109, 110), which he styles the middle period of man's natural life. Emerging from the forest he found himself at the end of a valley with a mountain before him, the summit of which was lighted by the rays of the morning sun. He began to ascend the mountain, when three fierce animals, a panther, a lion, and a she-wolf, opposed his way. This passage, which is evidently allegorical, has greatly puzzled the commentators. It is generally agreed that the panther means Lust, an appetite to which the poet had been prone in youth, and which he perhaps may have meant that he was at this time of life in hopes of conquering. The lion means Ambition, or Pride; and the she-wolf is the emblem of Avarice. These three passions are those that most torment mankind, and stand in the way of that moral reform which it was the poet's object to promote. But there is also a political allegory contained in this passage, namely, that the three beasts represent the ruling vices of the Italian cities of the time. Some say that they represent the Guelph league of Florence, designated by a panther; Papal Rome, under the old political emblem of the wolf; and France represented by a lion. Further on in the same canto we are told that a hound shall rise who will conquer the she-wolf:—

> . . . . . . "He will not life support
> By earth nor its base metals, but by love,
> Wisdom, and virtue, and his land shall be
> The land 'twixt either Feltro. In his might
> Shall safety to Italia's plains arise,
> For whose fair realm, Camilla, virgin pure,
> Nisus, Euryalus, and Turnus fell;
> He with incessant chase through every town
> Shall worry, until he to hell at length
> Restore her, thence by envy first let loose."
>
> ('Inferno,' i., 99, &c. Cary's Translation.)

In this panegyrical strain the poet alludes to Cane della Scala, Lord of Verona, the great Guibeline leader, and the patron of Dante in his exile, who fought bravely and successfully against the united power of the Popes, King Robert Anjou of Naples, and the Guelph cities, and whose dominions extended at one time, shortly before his death, from Monte Feltro, near Urbino, to Feltre, a town in the March of Treviso, near the foot of the Carnic Alps. There is another laudatory effusion in praise of Cane della Scala in Canto xvii., v. 75, of the 'Paradiso,' where the poet is told by his ancestor, Cacciaguida, that in his exile he shall find refuge at the court of the "Great Lombard" (Alboino della Scala, Lord of Verona, and elder brother of Cane) with whom he shall meet:—

> "That mortal who was at his birth impress'd
> So strongly from his star, that of his deeds
> The nations shall take note. His unripe age
> Yet holds him from observance; for these wheels
> Only nine years have compass'd him about.
> But ere the Gascon practise on great Harry,
> Sparkles of virtue shall shoot forth in him
> In equal scorn of labours and of gold.
> His bounty shall be spread abroad so widely,
> As not to let the tongues, e'en of his foes,
> Be idle in its praise. Look thou to him,
> And his beneficence: for he shall cause
> Reversal of their lot to many people;
> Rich men and beggars interchanging fortunes.
> And thou shalt bear this written in thy soul,
> Of him, but tell it not: and things be told
> Incredible to those who witness them;
> Then added, 'So interpret thou, my son,
> What hath been told thee.'"

Dante was no courtly flatterer, as is shown by the whole tenour of his life, and therefore his praise of Cane della Scala is not open to suspicion. Like the rest of the great Guibeline party in Italy, after the suspicious death of the Emperor Henry VII., in 1313, he placed his chief confidence in the rising fortunes of the Lord of Verona, who was a superior character in his age. Dante regarded the temporal power of the pope, who was the head of the Guelph party, as the cause of the political dismemberment of Italy. He saw the papal court, in its ambition of temporal aggrandisement, sowing dissension among the Italian States, under the usual pretence of favouring the cause of liberty and religion. He then looked round him for some preponderating power to unite and direct the factious democracies of Italy and turn their wasting powers to purposes of the common weal, and he thought that the power of the emperor, supported by the Guibeline lords of North Italy, offered the only chance of union and internal peace. He did not want a despot, a thing at that time not to be dreaded in a German emperor who had no direct sovereignty over any part of Italy, but he wished for a feudal suzerain, round whose throne the towns and principalities of Italy should rally, and thus exclude the Anjou or French influence, which, having been called in by the popes in their hatred of the house of Suabia, had caused so much calamity and bloodshed in Southern Italy, and which was threatening, at the time when Dante was writing his poem, to extend its dominion over the North, being supported by the Marquis of Este and the Guelph cities. It was through the French influence, exercised by Charles of Valois, that the party of the Neri obtained the preponderance at Florence, which they abused by driving away 600 of the most distinguished citizens, among whom were Dante himself and the father of Petrarch, and confiscating their property. A few years later, the papal See being removed to Avignon, the popes became French by nation, feelings, and interest; and this was another circumstance highly injurious to the welfare of Italy. Dante had therefore ample reasons, both personal and national, for hating the French and Anjou sovereigns, and their allies the popes, and it is upon both that he pours down the vials of his wrath in many passages of his poem.

With similar feeling Dante places in purgatory, "for having neglected that he should have done," Rudolph of Habsburg, who, absorbed with his German and Austrian concerns, neglected Italy altogether—

> . . . . . "Who might have heal'd
> The wounds whereof fair Italy hath died."
> ('Purgatory,' Canto vii.

Dante reasoned as an Italian party-man, for the "wise Rudolph" was praised in Germany for his non-interference in the affairs of Italy, "that den of wild beasts," as he used to style it, which was whitened by the bones of many of his predecessors and countrymen.

In another place the poet himself launches out into an eloquent invective against Italy:—

> "Ah, slavish Italy, thou inn of grief!
> Vessel without a pilot in loud storm!
> Lady no longer of fair provinces,
> But brothel-house impure!
>
> . . . .
>
> Seek, wretched one! around thy sea-coasts wide,
> Then homeward to thy bosom turn; and mark
> If any part of thee sweet peace enjoy.
> What boots it that thy reins Justinian's hand
> Refitted, if thy saddle be unpress'd?
>
> Ah, people! thou obedient still shouldst live,
> And in the saddle let thy Cæsar sit,
> If well thou marked'st that which God commands."

He then addresses Albert of Austria, son and successor of Rudolph on the throne of Germany, reproaching him with neglecting, like his father, the condition of Italy, which he compares to an unruly horse:—

> "Look how that beast to felness hath relaps'd,
> From having lost correction of the spur,
> Since to the bridle thou hast set thine hand,
> O German Albert! who abandon'st her
> That is grown savage and unmanageable
> When thou shouldst clasp her flanks with forked heels.
> Just judgment from the stars fall on thy blood;
> And be it strange and manifest to all;
> Such as may strike thy successor with dread;
> For that thy sire and thou have suffer'd thus,
> Through greediness of yonder realms detain'd,
> The garden of the empire to run waste.
> Come, see the Capulets and Montagues,
> The Filippeschi and Monaldi; man
> Who car'st for nought! those sunk in grief, and these
> With dire suspicion rack'd. Come, cruel one!
> Come, and behold the oppression of the nobles,
> And mark their injuries. . . . . . .
> Come, and behold thy Rome, who calls on thee,
> Desolate widow, day and night with moans:
> 'My Cæsar, why dost thou desert my side?'
> So are the Italian cities all o'erthrong'd
>
> With tyrants, and a great Marcellus made
> Of every petty factious villager."
> ('Paradise,' Canto vi.)

When Henry of Luxemburg, who succeeded Albert on the throne of Germany in 1308, came to Italy to be crowned emperor, Dante strongly advocated his title to the sovereignty, and wrote his book 'De Monarchia' with that object. This book was afterwards greatly relied upon by Ludovic of Bavaria, Henry's successor, as supporting his claim of political supremacy over the pope, for which reason Cardinal du Poyet, the pope's legate in the Romagna, wanted to disinter and burn Dante's body, but was prevented by the citizens of Ravenna. Long before this, however, after the untimely death of Henry VII., in 1313, Cane della Scala, the most powerful, able, and successful of the Guibeline lords of North Italy, became the acknowledged head of his party. Cane continued to be (and Dante accordingly extolled him as such) the hope of the Guibelines for the remaining years of the poet's life.

Dante's poem is full of political allusions, as well as of moral precepts; and one great difficulty consists in finding out where the poet speaks in the character of a politician of a party, which, being exposed to persecution, both civil and religious, and lying under the then fearful anathemas of the Church of Rome, was in the habit of making frequent use of allegorical and emblematical language, and when he speaks simply in the strain of a general moralist. In his Dedication of the 'Paradise' to Cane della Scala, Dante says—

"The meaning of this work is not simple, but manifold; for, first, there is the literal sense, and next the allegorical, or moral, which may be illustrated by the passage in the Psalms: 'When Israel *went out* of Egypt, the house of Jacob from a people of strange language, Judah was his sanctuary and Israel his dominion.' If we regard the letter alone, these verses signify the departure of the children of Israel from Egypt in the time of Moses; if the allegorical sense, our redemption through Christ; if the moral, the conversion of the soul from grief, and from sin to a state of grace; if the anagogical, the departure of the soul from the bondage of corruption to the eternal liberty of heavenly glory; and since these mystic meanings are called by various names, the world may be generally deceived, seeing that the allegorical meaning is distinct from the historical or literal." And Dante goes on to say that his own poem is to be understood in a double sense: "According to the literal acceptation, the subject-matter is simply the state of souls after death; but according to the allegorical meaning, the poet treats of that hell where, wandering like travellers, we may have merit or demerit; it treats of man as a free agent, obnoxious to the rewards and punishments of justice."

That there is, therefore, a political meaning in the poem seems evident, as well as that the general tenor of it is in favour of the Guibelines, or monarchical party, which, however, was then at enmity with the church, a circumstance which we ought not to forget, no more than that the Guelphs were the supporters of the papal pretensions, and of bigotry and intolerance. But Dante's family was Guelph; he himself had fought in his youth in the ranks of the Guelphs at Campaldino: and he was, moreover, a sincere Roman Catholic, believing in the dogmas of the Roman church, although opposed to the temporal encroachments of the popes: and he appears at times to retain in certain passages of his poem his former character of a Guelph. For instance, in his peregrination through Hell, when he meets, among those who are punished as followers of Epicurus, the soul of Farinata degli Uberti, the great Guibeline leader in the time of Frederic II. and of his son Manfred, that haughty chief, on learning the poet's family name, observes, with an uplifted brow, that Dante's ancestors had been his enemies; and that he had twice driven them, in common with the other Guelphs, out of Florence—namely, in 1248 and in 1260.

And in the same circle with Farinata the poet places Frederic II. and the Cardinal Ubaldini, a noted Guibeline. But here Dante, in his character of moral judge and of a Christian believer, awards punishment to those who died with the reputation of being infidels. Again, in Canto xxii. of the Inferno, he meets Bocca degli Abati, a traitor to his own Guelph party, who mainly contributed to the victory of the Guibelines at Montaperto. It has been observed by an ingenious critic that, in these few instances in which the poet evinces an anti-Guibeline feeling, his guide, Virgil, walks away from him, and stands aloof in silence, as if not pleased; whilst upon other occasions he shews his sympathy with the poet's sentiments, and more especially in Canto xix. of the 'Inferno,' where Dante launches forth a bitter invective against the temporalities of the papal See; addressing Nicholas III. (Orsini), whom he places with Simon Magus and other persons guilty of simony, in holes with the head downwards, and flames burning on the soles of their feet:—

"Tell me now
What treasure from Saint Peter at the first
Our Lord demanded, when he put the keys
Into his charge? Surely he ask'd no more
But 'Follow me.' Nor Peter, nor the rest,
Or gold or silver of Matthias took,
When lots were cast upon the forfeit place
Of the condemned soul. Abide thou then;
Thy punishment of right is merited:
And look thou well to that ill-gotten coin
Which against Charles thy hardihood inspir'd.
If reverence of the keys restrain'd me not,
Which thou in happier times didst hold, I yet
Severer speech might use. Your avarice
O'ercasts the world with mourning, under foot
Treading the good, and raising bad men up.
Of shepherds like you the Evangelist
Was 'ware, when her, who sits upon the waves,
With kings in filthy whoredom beheld;
She who with seven heads tower'd at her birth,
And from ten horns her proof of glory drew,
Long as her spouse in virtue took delight.
Of gold and silver you have made your god,
Diff'ring wherein from the idolater,
But that he worships one, a hundred ye?
Ah, Constantine! to how much ill gave birth,
Not thy conversion, but that plenteous dower
Which the first wealthy father gain'd from thee!
Meanwhile as I sung, he, whether wrath
Or conscience smote him, violent upsprang
Spinning on either sole. I do believe
My teacher was well pleas'd, with so compos'd
A lip he listen'd ever to the sound
Of the true words I utter'd. In both arms
He caught, and, to his bosom lifting me,
Upward retrac'd the way of his descent."

This remarkable passage has been interpreted by some writers as conveying a stigma on the church, and doctrines of the church, of Rome, as if that church were identified with the Apocalyptical Babylon, who sits upon the waves. But another and more plausible interpretation refers it to the papal court, which, while Dante was writing his poem, though not in the time of Nicholas III., was fixed at Avignon.

It is clear from the tenor of Dante's works that he was a sincere believer in all the doctrines of the Roman church, which in his time was the only church of the West; but he drew a wide line between the church and the pontiff, whom he did not believe to be infallible; a belief not yet generally introduced in those times, and even now not acknowledged by many Roman Catholics, and explicitly repudiated by the Gallican or French church. In later times Dante might have been called a Jansenist, but never a heretic, which he is not considered to be even at Rome.

We will now return to the narrative of the poem. Dante, in his perplexity at the foot of the mountain, meets with the soul of Virgil, who introduces himself as sent by Beatrice, Dante's early love, to guide him through the regions of Hell—

"Where thou shalt hear despairing shrieks, and see
Spirits of old tormented, who invoke
A second death;"

and afterwards through Purgatory, where lie those who dwell

"Content in fire, for that they hope to come,
Whene'er the time may be, among the bless'd,
Into whose regions if thou then desire
To ascend, a spirit worthier than I
Must lead thee."

After much hesitation on the part of Dante, through fear of his want of firmness to bear the fearful journey, being reassured by Virgil, he consents to follow him. Dante had studied the Latin classics only, for in his time Greek was nearly unknown in Italy; and from a passage in Dante's 'Convito' it appears that there was no Latin translation of Homer. Dante, therefore, looked upon Virgil as the first of poets whom he knew, and he speaks of him as his master and model in the poetic art; and although he greatly surpassed his master in originality and power, still there is something touching and highly creditable to the feelings of Dante in the deference which he shows throughout for Virgil, from a sense of gratitude for the instruction and pleasure which he had derived from his works.

Virgil led the poet through a turning of the forest to a gate which opened into a subterranean road. Over the lofty arch of the portal Dante read the inscription:—

> "Through me you pass into the city of woe.
> Through me you pass into eternal pain
> Through me among the people lost for aye.
> Justice the founder of my fabric mov'd.
> To rear me was the task of power divine,
> Supremest wisdom, and primeval love.
> Before me things create were none, save things
> Eternal, and eternal I endure.
> All hope abandon, ye who enter here."

Passing the fatal threshold, Dante, led by Virgil's hand, found himself in an immense cavity of the earth, resounding with strange noises:—

> "Here sighs and lamentations and loud moans
> Resounded through the air, pierc'd by no star,
> That e'en I wept at entering. Various tongues,
> Horrible languages, outcries of woe,
> Accents of anger, voices deep and hoarse,
> With hands together smote, that swell'd the sounds,
> Made up a tumult, that for ever whirls
> Round through that air with solid darkness stain'd
> Like to the sand that in the whirlwind flies."
> ('Inferno,' Canto iii.)

In this place, which is like the entrance to the hall of Hell, and not Hell itself, are confined for ever the souls of those who, although they did no positive evil in this world, yet did no good.

Moving onwards, the poet beheld another crowd of spirits thronging towards the bank of a great stream, the Acheron, which forms the boundary of Hell, or the region of torments. A hoary old boatman ferries over the condemned souls of those who die in the wrath of God, and which gather here from every clime. They hurry on into the boat, goaded on to their fate by Divine justice, so that their fear is turned into desire. Charon addresses them thus:—

> . . . . . 'Woe to you, wicked spirits! hope not
> Ever to see the sky again. I come
> To take you to the other shore across
> Into eternal darkness, there to dwell
> In fierce heat and in ice. . . .
> . . . . Meanwhile
> Those spirits, faint and naked, colour chang'd,
> And gnash'd their teeth, soon as the cruel words
> They heard. God and their parents they blasphem'd,
> The human kind, the place, the time, and seed,
> That did engender them and give them birth.
> Then all together sorely wailing drew
> To the curs'd strand that every man must pass
> Who fears not God. Charon, demoniac form,
> With eyes of burning coal, collects them all,
> Beck'ning, and each, that lingers, with his oar
> Strikes. As fall off the light autumnal leaves,
> One still another following, till the bough
> Strews all its honours on the earth beneath;
> E'en in like manner Adam's evil brood
> Cast themselves, one by one, down from the shore,
> Each at a beck, as falcon at his call."

Dante and his guide having passed over to the other shore, the poet found himself on the brink of an unfathomable abyss, dark and overspread with thick clouds. The Hell described by Dante is in the shape of a hollow inverted cone, whose apex is at the centre of the earth. The condemned are placed in nine parallel belts, or circles, round the cone, one below the other, like the ranges of seats in an amphitheatre. Descending into the first circle, the poet found himself in the Limbo—a place assigned by Roman Catholics to the souls of those who die without baptism, and are guiltless of actual sin, such as infants. Dante places also here many great men of antiquity, Homer and other poets, Socrates, Aristotle, Plato and other philosophers; many Roman heroes and matrons, the first Brutus, "hawk-eyed Cæsar," Lucretia, Cornelia, &c.; and in one place, "apart retired," the famous Saladin. This was the place assigned to Virgil himself. These spirits are subject to no pain, except sorrow at not being admitted into the presence of God in Paradise. The souls of the patriarchs, and of the virtuous men of the Mosaic dispensation, were all confined in the Limbo, until our Saviour after his death led them forth to Heaven.

Descending from thence into the second circle, Dante beheld at the entrance Minos, the judge of souls, who examines them all in turn, and consigns each to its respective place of punishment. Virgil having explained Dante's mission, the living poet is allowed to pass the judgment-seat unquestioned; after which

> . . . . . . "Into a place I came
> Where light was silent all. Bellowing there groan'd
> A noise, as of a sea in tempest torn
> By warring winds. The stormy blast of hell
> With restless fury drives the spirits on,
> Whirl'd round and dash'd amain with sore annoy.
> When they arrive before the ruinous sweep,
> There shrieks are heard, there lamentations, moans,
> And blasphemies 'gainst the good power in heaven.
> I understood, that to this torment sad
> The carnal sinners are condemn'd, in whom
> Reason by lust is sway'd. As in large troops
> And multitudinous, when winter reigns,
> The starlings on their wings are borne abroad,
> So bears the tyrannous gust these evil souls.
> On this side and on that, above, below,
> It drives them: hope of rest to solace them
> Is none, nor e'en of milder pang. As cranes,
> Chanting their dol'rous notes, traverse the sky,
> Stretch'd out in long array; so I beheld
> Spirits, who came loud wailing, hurried on
> By their dire doom. . . . (Inferno, Canto v.)

Here the poet saw, whirled round incessantly among the rest, Semiramis, Helen, Dido, Cleopatra, and other "dames and knights of ancient days," noted for being addicted to carnal lusts. He also saw two souls flying together before the gust, as if loth to part company. As they drew near to him he addressed them thus:—

> "'O wearied spirits! come and hold discourse
> With us, if by none else restrain'd.'
> Hearkening to the call, they came——as doves,
> By fond desire invited, on wide wings
> And firm, to their sweet nest returning home,
> Cleave the air."

One of the two then addresses Dante thus:—

> "O gracious creature and benign! who go'st
> Visiting, through this element obscure,
> Us, who the world with bloody stain imbrued
> If, for a friend, the king of all we own'd,
> Our pray'r to him should for thy peace arise,
> Since thou hast pity on our evil plight.
> Of whatsoe'er to hear or to discourse
> It pleases thee, that will we hear, of that
> Freely with thee discourse, while e'er the wind,
> As now, is mute. The land that gave me birth
> Is situate on the coast where Po descends
> To rest in ocean with his sequent streams.
> Love, that in gentle heart is quickly learnt,
> Entangled him by that fair form, from me

Ta'en in such cruel sort as grieves me still
Love, that denial takes from none belov'd,
Caught me with pleasing him so passing well,
That, as thou seest, he yet deserts me not
Love brought us to one death Caina waits
The soul who spilt our life'

The spirit which thus spoke was that of the beautiful and frail Francesca, daughter of Guido da Polenta, lord of Ravenna, who was given by her father in marriage to Lanciotto Malatesta, son of the lord of Rimini who was deformed in his person Paolo Lanciotto's brother, engaged the affections of his sister-in law, and, being taken in adultery, they were both put to death by the husband Dante, during his exile was a guest of Guido da Polenta at Ravenna, when the recollection of the catastrophe was still recent. The poet represents himself as deeply affected by Francesca's narrative, and, after musing awhile, he thus addresses her —

. . . . . ' 'Francesca your sad fate
Even to tears my grief and pity moves
But tell me in the time of your sweet sighs
By what, and how, Love granted that ye knew
Your yet uncertain wishes?' She replied —
'No greater grief than to remember days
Of joy, when misery is at hand That kens
Thy learn'd instructor Yet so eagerly
If thou art bent to know the primal root
From whence our love gat being, I will do
As one who weeps and tells his tale One day
For our delight we read of Lancelot
How him love thrall'd Alone we were, and no
Suspicion near us Ofttimes by that reading
Our eyes were drawn together, and the hue
Fled from our alter'd cheek But at one point
Alone we fell When of that smile we read,
The wished smile so rapturously kiss'd
By one so deep in love, then he, who ne'er
From me shall separate, at once my lips
All trembling kiss'd The book and writer both
Were Love's purveyors In its leaves that day
We read no more.' While thus one spirit spake
The other wail'd so sorely, that, heart struck,
I, through compassion fainting, seem'd not far
From death, and like a corse fell to the ground. —
(Canto v)

This exquisite passage has always been admired for its pathos and delicacy of expression Dante does not, like Ginguené and other critics, through a mawkish sentimentality, attempt to extenuate the guilt of the lovers; he awards them their just punishment, but he cannot help feeling compassion for them, so young, so fair, so early deprived of life, and in such a manner One consolation he allows them, if consolation it be,—that of suffering together for all eternity, and twice Francesca dwells upon this circumstance, clinging to it as her sole remaining comfort:—

"He yet deserts me not;"

and

"He who ne'er
From me shall separate."

The delicacy with which she alludes to her guilt,—

"That day we read no more,"—

and the simple tale of the manner in which she was unconsciously, as it were, led into it, are deeply affecting.

In the next, or third circle, the poet sees the gluttons, who are punished by lying in the mire, under a continual storm of [illegible] snow, and muddy water; whilst Cerberus, the three-[illegible] mastiff, barks over them and tears their limbs.

The fourth circle is occupied by the prodigal and the avaricious, and Plutus stands watching at the gate, uttering certain [illegible] which have greatly puzzled the critics—"Papé, [illegible] Pape, Satan Aleppe," ('Inferno,' Canto vii., ver. 1.)—Some have fancied the meaning of these enigmatical words to be a comparison of the pope with Satan, others have sought in the Hebrew language, which Dante probably knew nothing of, for an interpretation of them, but a more plausible explanation is suggested by Benvenuto Cellini, who says that while at Paris he heard frequently, in the courts of justice, the cry of "silence" from the judge to the usher, who was wrangling with persons at the gate, in the words "Paix paix, Satan, allez paix," which sound like those introduced by Dante, who may have heard them while at Paris. The punishment of those who are confined in the fourth circle consists in rolling continually enormous stones one against the other, by pushing them with their breasts The poet next proceeded to the fifth circle, in which he saw the wrathful and passionate, who lay plunged in the Stygian marsh, tearing each other to pieces with their nails and teeth In the sixth circle is the city of Dis, with walls and minarets of iron lighted by a fire within, which burns for ever The area of the city encloses a vast number of sepulchres, in which are buried heretics and infidels burning in the flames

In the seventh circle Dante first meets with those who have committed violence against their neighbours and who are immersed in a river of blood from which, as they strive to escape they are shot at with arrows by centaurs posted along the banks This place of punishment is awarded to fierce conquerors, tyrants, and devastators of countries, among whom the poet enumerates Pyrrhus, Dionysius the Elder, Attila, Ezzelino da Romano, &c , also murderers, pirates and highway robbers He notices Guy de Montfort son of Simon de Montfort Earl of Leicester, who killed prince Henry son of Richard of Cornwall, and nephew of Henry III of England, in a church at Viterbo, in Italy, while Henry was kneeling before the altar hearing mass Guy committed this act to revenge his own father's death (Holinshed's *Chronicle*, A D 1272) In another compartment of the seventh circle are the self murderers, and also those who squander away their property or other blessings, which they have received from God whoever

"In reckless lavishment his talent wastes,
And sorrows there where he should dwell in joy"
(Canto xi)

In the third compartment of the seventh circle are those who have done violence or openly revolted against God, and those who have been addicted to unnatural vice, and, lastly, usurers They are all in a vast sandy plain, some stretched on their backs, others sitting, and others perpetually walking about, while flakes of fire are falling thick upon the sand

Dante and Virgil then descend into the eighth circle, seated on the back of the monster Gorgon, who is the emblem of fraud —

"Lo! the fell monster with the deadly sting,
Who passes mountains, breaks through fenced walls
And firm embattled spears, and with his filth
Taints all the world." (Canto xvii)

The eighth circle is divided into ten gulfs or compartments, each containing a particular class of sinners. The description of this circle occupies thirteen cantos (xviii. to xxx.), by which the poet intends to show the vast proportion of crimes committed through fraud, deceit, or treachery.

In the ninth gulf of the eighth circle are the sowers of scandal, schism, and heresy, with their limbs mangled and divided. Among them the poet saw Mohammed and Ali, besides several of his own contemporaries and countrymen. He makes one of them foretel the speedy arrival of Fra Dolcino, who, in Dante's time, formed a new sect at Novara in Lombardy, and promulgated, among other things, the doctrine of a community of property and of wives He was followed by more than 3000 men and women, who lived promiscuously in the mountains like beasts for about two years, until many of them, being disgusted with this kind of life, left him, and scarcity of food and heavy falls of snow dispersed the rest. Fra Dolcino was seized, with a woman called Margarita, his companion, and burnt at Novara, about 1300. (G. Villani, ch. 8.) In the tenth gulf are the alchymists, forgers, and coiners, who are tormented by various loathsome diseases. One of them, Adamo da Brescia, who had counterfeited the coin of Florence at the instigation of the lord of Romena, a place in the fine valley of the Apennines, called Casentino, appears swollen with dropsy, and tormented by a parching thirst which he has no means of allaying. He thus addresses Dante:—

> "'O ye! who in this world of misery,
> Wherefore I know not, are exempt from pain,'
> Thus he began, 'attentively regard
> Adamo's woe. When living, full supply
> Ne'er lack'd me of what most I coveted;
> One drop of water now, alas! I crave.
> The rills that glitter down the grassy slopes
> Of Casentino, making fresh and soft
> The banks whereby they glide to Arno's stream,
> Stand ever in my view; and not in vain;
> For more the pictur'd semblance dries me up,
> Much more than the disease, which makes the flesh
> Desert these shrivel'd cheeks. So from the place
> Where I transgress'd, stern justice, urging me,
> Takes means to quicken more my lab'ring sighs.'"
>
> (Canto xxx.)

Dante, following Virgil, proceeds to the ninth and lowest circle of Hell, divided into four compartments, in which are confined various sorts of traitors. Their torment consists in being plunged into a frozen lake. Among the rest our poet beheld—

> . . . . . "Two spirits by the ice
> Pent into one hollow, that the head of one
> Was cowl unto the other; and as bread
> Is raven'd up through hunger, th' uppermost
> Did so apply his fangs to the other's brain
> Where the spine joins it." . . . . .

Dante addresses the uppermost of the two to know the reasons of his deadly hate against the other:—

> "His jaws uplifting from their fell repast,
> That sinner wip'd them on the hairs o' the head
> Which he behind had mangled, then began:
> 'Thy will obeying, I call up afresh
> Sorrows past cure, which but to think of wrings
> My heart . . . .
> . . . . Know I was on earth
> Count Ugolino, and the archbishop he
> Ruggieri. Why I neighbour him so close,
> Now list. That, through effect of his ill thoughts
> In him my trust reposing, I was ta'en
> And after murder'd, need is not I tell.
> What therefore thou canst not have heard—that is
> How cruel was the murder—shalt thou hear,
> And know if he have wrong'd me. A small grate
> Within that mew, which for my sake the name
> Of famine bears, where others yet must pine,
> Already through its opening sev'ral moons
> Had shown me, when I slept the evil sleep
> That from the future tore the curtain off.
> . . . . When I awoke
> Before the dawn, amid their sleep I heard
> My sons (for they were with me) weep and ask
> For bread. Right cruel art thou if no pang
> Thou feel at thinking what my heart foretold;
> And if not now, why use thy tears to flow?
> Now had they waken'd, and the hour drew near
> When they were wont to bring us food; the mind
> Of each misgave him through his dream, and I
> Heard at its outlet underneath lock'd up
> The horrible tower; whence, utt'ring not a word,
> I look'd upon the visage of my sons.
> I wept not: so all stone I felt within.
> They wept: and one, my little Anselm, cried,
> Thou lookest so! Father, what ails thee? Yet
> I shed no tears, nor answer'd all that day
> Nor the next night, until another sun
> Came out upon the world. When a faint beam
> Had to our doleful prison made its way,
> And in four countenances I descried
> The image of my own, on either hand
> Through agony I bit; and they, who thought
> I did it through desire of feeding, rose
> O' the sudden and cried, Father, we should grieve
> Far less if thou wouldst eat of us: thou gav'st
> These weeds of miserable flesh we wear;
> And do thou strip them off from us again.
> Then, not to make them sadder, I kept down
> My spirit in stillness. That day and the next
> We all were silent. Ah! obdurate earth!
> Why open'dst not upon us? When we came
> To the fourth day, then Gaddo at my feet
> Outstretch'd did fling him, crying, Hast no help
> For me, my father? There he died; and e'en
> Plainly as thou seest me, saw I the three
> Fall one by one 'twixt the fifth day and sixth:
> Whence I betook me, now grown blind, to grope
> Over them all, and for three days aloud
> Call'd on them who were dead. Then fasting got
> The mastery of grief.' Thus having spoke . . .
> Once more upon the wretch his skull his teeth
> He fasten'd like a mastiff's 'gainst the bone,
> Firm and unyielding."

The poet, in his indignation at the horrid tale, breaks forth into a fearful denunciation against the city of Pisa for its cruelty to the Count and his innocent children:—

> "Oh thou Pisa, shame
> Of all the people who their dwelling make
> In that fair region where the Italian voice
> Is heard! since that thy neighbours are so slack
> To punish, from their deep foundations rise
> Capraia and Gorgona, and dam up
> The mouth of Arno, that each soul in thee
> May perish in the waters. What if fame
> Reported that thy castles were betray'd
> By Ugolino? yet no right hadst thou
> To stretch his children on the rack. For them,
> Brigata, Uguccione, and the pair
> Of gentle ones, of whom my song hath told,
> Their tender years, thou modern Thebes, did make
> Uncapable of guilt." . . . . .

The catastrophe of Count Ugolino happened at Pisa in 1289. The Count, an ambitious leader, was accused of treachery to his country, and, being overpowered by the opposite party, at the head of which was the Archbishop Ruggieri, he was shut up in a tower near the Arno with two of his sons, Uguccione and Brigata, and two grandsons, Anselmuccio and Gaddo, the latter still of tender years. After some weeks the archbishop caused the key of the tower to be thrown into the river, and left the five prisoners to be starved to death. The tower was thenceforth called "Torre della Fame," the "Tower of Hunger."

Arriving at the bottom of the ninth circle described, the poet beholds Lucifer, "the emperor who sways the realm of sorrow," standing forth with giant form, at mid-breast from the ice, with three heads, and holding a sinner in each of his mouths. The waist of the giant is at the centre of the earth. Virgil, having Dante clinging to his back, turning with the head downwards, passed the central point and climbing [illegible] of the legs of the giant, and between them and the ice, and thence by a secret path ascending, they both emerged in the other hemisphere of the earth, where they behold a lofty hill, which is the mountain of Purgatory. Round the mountain are seven circles or vast terraces, one above the other, making so many prisons, in which the seven sins are expiated which have been noticed in hell, with this difference, that, the souls having died in a state of repentance, hope cheers them until their hour of delivery comes. A milder air breathes over this part of the poem, which is divided, like the Inferno, into 33 cantos, and contains many beautiful passages full of pathos. Such is the beginning of Canto viii., when Dante, speaking of the evening twilight, thus describes it:—

> "Now was the hour that wakens fond desire
> In men at sea, and melts their thoughtful heart
> Who in the morn have bid sweet friends farewell,
> And pilgrim newly on his road with love
> Thrills, if he hear the vesper-bell from far,
> That seems to mourn for the expiring day."
> (Cary's translation.)

A poet of our own times (Byron), who, though less consistent in his judgment than Dante, less comprehensive in his views, and less sincere in his poetical faith, has, like him, made man and man's feelings the main theme of his verse, has also sung the "Sweet Hour of Twilight," the "Ave Maria" of Italy, the "Hour of Prayer," and "The Hour of Love," and he has paraphrased the above passage of Dante in the following stanza:

> "Soft hour which wakes the wish and melts the heart
> Of those who sail the seas, on the first day
> When they from their sweet friends are torn apart;
> Or fills with love the pilgrim on his way,
> As the far bell of vesper makes him start,
> Seeming to weep the dying day's decay."

At the foot of the mountain and before entering the boundaries of Purgatory Proper, our poet met with many souls which were waiting for leave to begin their period of expiation, having deferred their repentance to the last moments of their life. Among others he saw Manfred King of Sicily and Naples, who was killed at the battle of Benevento fighting against Charles of Anjou.

At last, being admitted through the portals of Purgatory, Dante sees in the first circle those who expiate the sin of pride by carrying heavy stones, the weight of which bends their bodies to the ground. Among the rest he meets Oderigi of Gubbio, a miniature-painter of some reputation, and a friend of Giotto, who confessed that his pupil, Franco of Bologna, had surpassed him in his art, although through pride he would not acknowledge it in his lifetime. Reflecting upon the precariousness of man's works and fame, Oderigi illustrates it by the example of his own age:—

> "O powers of man! how vain your glory, nipp'd
> E'en in its height of verdure, if an age
> Less bright succeed not! Cimabue thought
> To lord it over painting's field; and now
> The cry is Giotto's, and his name eclips'd.
> Thus hath one Guido from the other snatch'd
> The letter'd prize, and he perhaps is born
> Who shall drive either from their nest. The noise
> Of worldly fame is but a blast of wind,
> That blows from diverse points, and shifts its name,
> Shifting the point it blows from. Shalt thou more
> Live in the mouths of mankind, if thy flesh
> Part shrivell'd from thee, than if thou hadst died
> Before the coral and the pap were left;
> Or e'er some thousand years have past? and that
> Is, to eternity compar'd, a space
> Briefer than is the twinkling of an eye
> To the heaven's slowest orb. . . . . .
> . . . . Your renown
> Is as the herb, whose hue doth come and go,
> And his might withers it by whom it sprang
> Crude from the lap of earth."

In the second cornice, or circle, the envious are confined, clad in sackcloth and their eyes sewed up with a thread of wire. He hears two of the sufferers discussing the condition of Italy, and especially that of Tuscany, where a fine description is given of the course of the river Arno, from its source in the mountain of Falterona to its æstuary on the coast of Pisa.

In the third circle those who have been prone to anger expiate their guilt by being involved in clouds of dense smoke. A certain Marco Lombardo, a Venetian noble, enters into a disquisition concerning the free will of man, which he defends against the doctrine of necessity:—

> "'Brother,' he thus began, 'the world is blind,
> And thou in truth com'st from it. Ye who live
> Do so each cause refer to heav'n above
> E'en as its motion of necessity
> Drew with it all that moves. If this were so,
> Free choice in you were none; nor justice would
> There should be joy for virtue, woe for ill.
> Your movements have their primeval bent from heaven;
> Not all." . . . .

And afterwards comes the following fine image:—

> "Forth from the plastic hand, who charm'd beholds
> Her image ere she yet exists, the soul
> Comes like a babe, that wantons sportively,
> Weeping and laughing in its wayward moods,
> As artless and as ignorant of aught,
> Save that her Maker, being one who dwells
> With gladness ever, willingly she turns
> To whate'er yields her joy. Of some slight good
> The flavour soon she tastes; and, snar'd by that,
> With fondness she pursues it, if no guide
> Recal, no rein direct her wand'ring course."

In the fourth circle is expiated the sin of indifference, or lukewarmness in piety and virtue ("accidia" in Italian), and in the fifth circle that of avarice.

Proceeding to the sixth circle, Dante and Virgil meet the poet Statius by the way, who tells them that he died a Christian. In the sixth circle the vices of gluttony and intemperance are expiated. Here Dante meets Forese Donati, the brother of his wife, and of Corso Donati, the leader of the Neri, and Dante's enemy. The whole conversation of Dante with Forese, who had died in 1295, before the broils which distracted Florence, breathes the remembrance of former sweet domestic affections, which were rudely broken asunder by civil discord. Dante here shows himself in an amiable light: he avoids naming Corso and his other political enemies of the Donati family, to which he was allied by marriage, whilst he speaks most kindly of Forese, and his sister Piccarda, who had died a nun. Forese, on his part, draws a most affectionate picture of his own wife, Nella; whose retired manner and modest worth he contrasts with the profligate manners of Florence's "unblushing dames" of that age:—

> . . . . "In the sight of God
> So much the dearer is my widow priz'd,
> She whom I lov'd so fondly, as she ranks
> More singly eminent for virtuous deeds."—(Canto xxiii.)

Reaching the seventh circle of Purgatory, Dante finds in it those who had indulged in the sin of lasciviousness, from which they are purified by fire. From the seventh circle Dante, in company with Virgil and Statius, proceeds to the terrestrial Paradise, which occupies the summit of the mountain of Purgatory, and in which the first man was placed by the Creator. Here Virgil tells him that he is no longer his guide, and that Beatrice will soon appear to lead him through the celestial Paradise, which Virgil is not allowed to enter.

Beatrice makes her appearance, descending in a cloud from Heaven, when the spirit of Virgil vanishes away from the sight of Dante. Beatrice, in a literal sense, is the soul of the early love of Dante, but figuratively it is understood to mean theology, by the assistance of which the poet is made to understand the mysteries of religion. Beatrice reproves Dante for the errors of his past life, which the poet humbly confesses, and he is taken across the waters of Lethe; and after many mystical visions the poet is drawn up with Beatrice to the first heaven, or circle of Paradise.

The Paradise, which forms the third part of Dante's poem, consists of 33 cantos, like each of the two preceding parts. The circles or heavens are ten, the lowest being that of the Moon, next to which come those of Mercury, Venus, the Sun, Mars, Jupiter, and Saturn; afterwards the circle of the fixed stars, and then the ninth heaven, where are the hierarchies of the angels, and lastly the empyrean, which encircles the whole, and is the throne of the Almighty. The whole of this part is interspersed with theological and metaphysical disquisitions, which render it less fit than the other two for exposition or illustration. But this part also contains many highly poetical passages and historical allusions, which will amply repay the reader for its perusal. The souls of the blessed dwell all and eternally together, only partaking more or less of the divine glory in the empyrean, although, to suit the limited capacity of the human understanding, they appear to have different spheres allotted to them. (Paradise, Canto iv.) Accordingly, the poet sees in the first, or lowest sphere, being that of the Moon, the souls of those who, after having made professions of chastity and religious life, have been compelled to violate their vows. Among these the poet sees Piccarda Donati, the sister of Corso, whom her brother took away by force from her monastery to give her in marriage to one of his own party, but she soon after fell ill and died. Dante throughout his poem often recurs to his Florentine connexions, political and domestic. In the next sphere, of Mars, are those who have been actuated throughout their upright career in this world more by the wish of gaining the approbation of men than from the feeling of duty to God.

In the sphere of Venus Dante sees those who, after being given to the passion of love, turned that feeling into devotion to God. Here he meets with Charles Martel, the King of Hungary, son of Charles II., Anjou King of Naples, whom Dante had personally known at Florence.

The fourth sphere is that of the Sun according to the ancient system of astronomy, which made our earth the centre of the world. In this sphere are the doctors of the church, and, among others, Thomas Aquinas, of the Order of St Dominic, who pronounces a panegyric upon St. Francis, the founder of the Franciscan order, and St. Bonaventura, a Franciscan friar, who delivers a like eulogy on St. Dominic. In this Dante has evidently intended to avoid all appearance of the rivalry which existed between those two celebrated monastic orders. And this is another proof, if proof is wanted, that Dante was sincere in his faith, and neither a heretic nor an unbeliever.

After several theological disquisitions Dante ascends to the fifth heaven, which is that of the planet Mars, where are the souls of those who died fighting for religion. Among them our poet discovers his ancestor Cacciaguida, who died in the wars of the Crusades in the East, about 1152. A long conversation follows concerning the state of Florence, past and present. Cacciaguida extols the good old times, when manners were simple, when the population

> "Was chaste and sober, and abode in peace."
> . . . "had no armlets and no head-tires then,
> No purpled dames; no zone that caught the eye
> More than the person did. Time was not yet
> When at his daughter's birth the sire grew pale,
> For fear the age and dowry should exceed
> On each side just proportion. House was none
> Void of its family; not yet had come
> Sardanapalus to exhibit feats
> Of chamber prowess." . . . .
> "I saw Bellincion Berti walk abroad
> In leathern girdle and a clasp of bone;
> And with no artful colouring on her cheeks
> His lady leave the glass. The sons I saw
> Of Nerli and of Vecchio well content
> With unrob'd jerkin; and their good dames handling
> The spindle and the flax." . . . .

Similar lamentations have been said or sung of every place and nation under the sun that has risen to wealth and refinement. If they are evils, they are evils that seem unavoidable. Simplicity of manners may be a good thing, but with the increase of wealth, industry, and population, it cannot continue as it was in earlier times; and to regret it when the times and social state have changed is to regret an impossibility. Every stage of society has its good and evil side, and wisdom would seem to consist in endeavouring to make the best of that condition of it under which we live.

The whole of the 16th and 17th cantos refer to the history of Florence.

Dante, following Beatrice, ascends to the sixth heaven, that of Jupiter, where are the souls of those who had faithfully administered justice in the world. Here the poet takes an opportunity of launching bitter invectives against Pope Boniface VIII. and against most of the kings of his time, Charles II. of Naples, Frederick of Sicily, Ferdinand IV. of Castile, Wenceslaus of Bohemia, Philip le Bel, Edward I. of England, the kings of Portugal, Norway, Hungary, Rascia, and Cyprus. He afterwards praises William II. of Sicily, called "the Good;" and, curious as it may appear, after shutting out Virgil and the philosophers of antiquity from Paradise, because they did not know the true God, he places there the Emperor Trajan, because he supposes him to have died a Christian.

In the seventh heaven, that of Saturn, Dante finds the ascetics, those who have spent their lives in retirement and contemplation.

The next heaven is that of the fixed stars, in which the poet meets St Peter, who examines him concerning faith; St James, who questions him concerning hope, "a sure expectance of the joy to come, the effect of grace divine and merit preceding;" and St John, who examines him concerning charity.—(Canto xxvii.) St Peter exclaims, in very indignant terms, against the covetousness of his successors, and especially of Boniface VIII. and of the "Cahorsines and Gascons," meaning Clement V. and John XXII., the Avignon popes, already noticed. The mention of the "Cahorsine, John XXII. of Cahors, is evidence that this part of the Paradise was not written before 1316, the date of that pope's election, although Dante makes St Peter prophesy it.

In the ninth heaven we have another invective against the preachers of Dante's time.

> . . . . . "E'en they, whose office is
> To preach the gospel, let the gospel sleep,
> And pass their own inventions off instead."—(Canto xxix.)

Indeed, all through the Paradise the author lashes most fiercely those whom he considered as the causes of the misfortunes of his own country, kings, popes, monks, and the clergy in general, most of whom belonged to the Guelph or Neri party.

In Canto xxx. he sees the hall in which

> . . . . . . "shall rest the soul
> Of the great Harry, he, who by the world
> Augustus hail'd, to Italy must come
> Before her day be ripe."

This was Henry of Luxemburg, in whom the hopes of Dante and his party were centered.

In Cantos xxxi. and xxxii. Dante holds conversation with St. Bernard, who points out to him several of the blessed souls, both of the Old and New Testament, and explains to him that their places are assigned to them by *Divine grace*, and not according to their merit. Through the intercession of the Virgin he is allowed to have a glimpse of the brightness of the Divine Majesty:—

> "As one who from a dream awaken'd, straight
> All he hath seen forgets, yet still retains
> Impression of the feeling in his dream,
> E'en such am I." . . . —(Canto xxxiii. and last.

And the poem concludes with an invocation of the Trinity:—

> "Then vigour fail'd the tow'ring fantasy;
> But yet the will roll'd onward, like a wheel
> In even motion, by the Love impell'd
> That moves the sun in heaven and all the stars."

Dante, as we have said above, did not publish all his poem in his lifetime, for he had spoken in it too strongly and against too many powerful individuals to venture on such a publication. He wrote it out of the fulness of his heart, in detached parts, and at different periods; and his tone was influenced by the various political vicissitudes of the times, and by his own alternate hopes and despondency. About the year 1316 he had still a chance of being recalled to Florence. It was suggested to him in a letter by a friend, apparently a relative or connexion, whom Dante in his reply styles "father," probably because he was a clergyman, that he would be allowed to return, provided he acknowledged his guilt and asked pardon of his countrymen. His answer, the Latin text of which, with a translation, is given by Foscolo, in his 'Essays on Petrarch,' is characteristic of his mind:—"From your letter, which I received with due respect and affection, I observe how much you have at heart my restoration to my country. I am bound to you the more since an exile seldom finds a friend. But, after mature consideration, I must by my answer disappoint the wishes of some little minds; and I confide in the judgment to which your impartiality and prudence will lead you. By letters from your nephew and mine, and also of many other friends, it has been signified to me that by a decree concerning the exiles I am allowed to return to Florence, provided I pay a certain sum of money, and suffer to ask and receive absolution, I am allowed to return. In this I see two propositions, both ridiculous and impertinent. I speak of those who mention such conditions to me, for in your own letter, dictated by judgment and discretion, no mention is made of them. Is such an invitation to return to his country glorious for Dante, after suffering banishment for nearly fifteen years? Is this the reward of manifest innocence, and of the labour and fatigue of unremitting study? Far from the man who is familiar with philosophy be the senseless baseness of a heart of clay that could act like a petty sciolist, and imitate those who allow themselves to be bound, as it were, in infamy! Far from the man who preaches justice to compromise for money with his persecutors! No, father, this is not the way for me to return to my own country. If there be found any other way, that shall not derogate from the fame and honour of Dante, I shall not be slow in availing myself of it; but if no such way be found, then to Florence I shall never return. What then? Shall I not everywhere enjoy the light of the sun and stars? can I not under any clime follow the contemplation of consoling truth without rendering myself inglorious, nay, ignominious, to the people and commonwealth of Florence? Bread, I hope, will not fail me."

In 1317-18 Dante appears to have been still wandering about Italy. About 1319 he repaired to Guido da Polenta, lord of Ravenna, where he was hospitably received, and where he remained till his death, which happened in September, 1321. He was buried in the church of the Minorites, under a plain monument. Bernardo Bembo, senator of Venice and podesta of Ravenna, raised to him a mausoleum in 1483, which was afterwards repaired in 1692 by Cardinal Corsi, of Florence, and lastly in 1780 reconstructed altogether in its present form by Cardinal Valenti Gonzaga, legate of Pope Pius VI. The reproof—

> "Ungrateful Florence! Dante sleeps afar,"

was at last felt by the Florentines; a subscription was made and a monument was raised to the memory of Dante in the church of Santa Croce, which was opened to public view with great solemnity on the 24th of March, 1830. (Missirini, 'Delle Memorie di Dante in Firenze,' 1830.)

For the manner in which the whole MS. of Dante's poem was found, collected, transcribed, and published, after his death, by his sons, Jacopo and Piero, the early commentaries on the poem, its early printed editions, and the whole bibliographic history of the work, the reader will find ample information in Foscolo's 'Discorso sul Testo di Dante,' London, 1825; and also in Missirini, 'Rivista delle varie Lezioni della Divina Commedia, e Catalogo delle piu importanti Edizioni,' Padova, 1832. Among the most complete editions of Dante's poems are: that of Venice, 5 vols. 4to., 1757-8, with ample notes, and including Dante's Life, by Pelli, and his minor poems and prose works; Lombardi's edition, Rome, 3 vols., 4to., 1791; and that of Florence, with illustrative plates, 1819, 4 vols., fol. Among the host of commentaries the one called l'Anonimo, and also l'Ottimo, written by a contemporary of Dante, who was evidently familiar with the poet, has been published for the first time at Leghorn in 3 vols., 8vo., 1827.

Among the numerous translations of the 'Divina Commedia,' that in English verse by Cary deserves to be mentioned with especial praise. An Italian translation of Dante's philological treatise 'De Vulgari Eloquio' was published by Trissino in 1529, and the Latin text in 1577.

PETRARCH.

Francesco Petrarca, commonly called Petrarch, born at Arezzo in July, 1304, was the son of Pietro, or Petracco (an idiomatic form of Pietro), a notary of Florence, who was banished in 1302, at the same time as Dante and others of the Bianchi faction. The true name of Petrarca was Francesco di Petracco, or 'Francis the son of Petracco,' which he afterwards changed to Francesco Petrarca. After losing all hope of being restored to his native town, Petracco removed with his family to Avignon, where Pope Clement V. had fixed the residence of the papal court. His son Francesco, after studying grammar and rhetoric, was sent by his father to Montpellier, and afterwards to Bologna to study law. Young Petrarca however had little taste for the law, and he devoted much of his time to reading and copying MSS. of the classic writers. His father and mother having died at Avignon nearly about the same time, Petrarca left Bologna. On his arrival at Avignon he assumed the clerical dress, without however having taken priestly orders, that habit being then, as it still is, the customary dress of good company at the papal residence. The papal court of Avignon was gay and licentious; and Petrarca, who was then only two and twenty years of age, and of a handsome person, was one of the gayest in the fashionable circles. But his love of pleasure was tempered by the love of study. He contracted a friendship with the jurist Soranzo, with the canon John of Florence, who was apostolic secretary, and with James Colonna, bishop of Lombes in Gascony, and other distinguished men, who were fond of learning, and who supplied him with books. Petrarca accompanied the bishop of Lombes to his diocese at the foot of the Pyrenees, where they spent much of their time in literary discussions and excursions in the mountains. On his return to Avignon, the Cardinal John Colonna, brother of James, gave Petrarca apartments in his own palace, and became his patron; and when his father, Stephen Colonna, a sturdy warlike old baron, well known for his quarrels with Boniface VIII., came from Rome to Avignon on a visit to his sons, Petrarca was introduced to him, and soon won his favour. Petrarca, who was an admirer of the heroes of ancient Rome, fancied that he saw in Stephen Colonna their worthy descendant, and in several of his verses, addressed to him, he calls him "the hope of the Latin name." (Sonnetto 10.) Azzo da Correggio, lord of Parma, having come to Avignon to defend, before Pope Benedict XII., his title to that sovereignty against the claims of Marsiglio Rossi, became acquainted with Petrarca, and prevailed on him to act as his advocate at the papal chancery. Petrarca undertook the cause and won it. Azzo had brought with him Guglielmo Pastrengo, a learned man of Verona, the author of a work 'De Originibus Rerum,' a kind of historical dictionary in alphabetical order, which is considered the first specimen of that kind of work. Petrarca formed an intimacy with Pastrengo as well as with the Calabrian monk Barlaam, from whom he learned the rudiments of Greek. But before this time an incident had occurred which exercised a powerful influence over Petrarca's life.

On the 6th of April, 1327, while he was attending service in the church of Sta. Clara, at Avignon, he was struck with beauty of a young lady who happened to be near him, and he conceived a violent passion for her. The lady's name was Laura. According to the received opinion, supported by documents (for Petrarca himself never mentions her family name), she was the daughter of Audibert of Noves, a small place in the territory of Avignon; she had a considerable fortune, and had been married about two years to Hugh de Sade, a gentleman of Avignon: when Petrarca first saw her she was nineteen years of age. The attractions of Laura's person have been fully described and probably exaggerated by Petrarca. But the qualities of her mind, which he also praises, seem to have been truly remarkable. In her conduct for a long course of years towards her handsome, accomplished, and impetuous admirer, whom she could not help meeting wherever she went, at parties of pleasure, in walking, or at church, she exhibited a rare mixture of firmness and courtesy, of respect for her own character with a considerate regard for her enthusiastic lover. She has been called a coquette, but we ought not to judge the conduct of a Frenchwoman of the fourteenth century by the standard of manners in England or even France in the nineteenth century. To those acquainted with the manners of Italy and Spain even at the present day, the passion of Petrarca for Laura de Sade is nothing uncommon. That the attachment of Petrarca continued to be platonic, was owing to Laura's sense of duty, or to her indifference, or to both; but that it did not drive her lover to madness and ruin was owing to her consummate address, of which we have abundant evidence in Petrarca's own confessions. When he ventured on a declaration, she sternly rebuked him, and avoided his presence; but when she heard that he was ill, she assumed towards him the manners of a friend interested in his welfare; she succeeded in purifying his passion, and in making him satisfied with her conversation, and with giving vent to his feelings in poetry. (Petrarca's Latin 'Epistle to James Colonna, Bishop of Lombes.') She was probably flattered by his praise, which brought no imputation on her character, and made her the most celebrated woman of her day. Petrarca's sonnets and canzoni in praise of Laura circulated throughout Europe. When Charles of Luxemburg, afterwards the Emperor Charles IV., came on a visit to Avignon, one of his first inquiries was after the Laura celebrated by Petrarca, and being introduced to her in the midst of a large assembly, he respectfully begged to be allowed to kiss her on the forehead as a mark of his esteem. (Petrarca, Sonnet 201.) It was not however without a violent struggle that Petrarca allowed himself to be led by her better judgment. For ten years after he had first seen Laura, his life was one continued strife between his passion and his reason. He left Avignon repeatedly, travelled about, returned, but was still the same. Wishing, if possible, to forget Laura, he formed a connexion with another woman, and had by her a son, and afterwards a daughter. But still his mind recurred perpetually to the object of his first attachment. He took care of his illegitimate children, but broke off the connexion. For several years he fixed his residence at Vaucluse, a solitary romantic valley near Avignon, on the banks of the Sorga, of which he has given some beautiful descriptions.

Meantime, year after year rolled on, and the beauty of Laura faded away. She became the mother of a large family. But Petrarca continued to see her with the eyes of youth, and to those who wondered how he could still admire her, he answered:

"Piaga per allentar d'arco non sana."

("The bow can no longer wound, but its mortal blow has been already inflicted. If I had loved her person only, I had changed long since.") In the year 1343, sixteen years after his first sight of Laura, he was writing in the soberness of self-examination: "My love is vehement, excessive, but exclusive and virtuous.—No, this very disquietude, these suspicions, this watchfulness, this delirium, this weariness of everything, are not the signs of a virtuous love." ('De Secreto Conflictu.')

In the year 1348, while Petrarca was staying in Italy, the plague spread into France and reached Avignon. Laura was attacked by the disease, and she died after three days' illness, on the 6th of April, in the 40th year of her age. Her death, from the account of witnesses, appears to have been placid and resigned, as her life had been. Petrarca has beautifully described her passing away like a lamp which becomes gradually extinct for want of nourishment. (Trionfo della Morte, ch. i.)

When the news reached Petrarca in Italy, he felt the blow as if he had lost the only object that attached him to earth. He wrote on a copy of Virgil, his favourite author, the following memorandum: "It was in the early days of my youth, on the 6th of April, in the morning, and in the year 1327, that Laura, distinguished by her virtues, and celebrated in my verses, first blessed my eyes in the church of Sta. Clara, at Avignon; and it was in the same city, on the 6th of the very same month of April, at the same hour in the morning, in the year 1348, that this bright luminary was withdrawn from our sight, whilst I was at Verona, alas! ignorant of my calamity. The remains of her chaste and beautiful body were deposited in the church of the Cordeliers, on the evening of the same day. To preserve the painful remembrance, I have taken a bitter pleasure in recording it particularly in this book, which is most frequently before my eyes, in order that nothing in this world may have any further attraction for me, and that this great bond of attachment to life being now dissolved, I may, by frequent reflection and a proper estimation of our transitory existence, be admonished that it is high time for me to think of quitting this earthly Babylon, which I trust will not be difficult for me, with a strong and manly courage, to accomplish." Petrarca's 'Virgil,' with this affecting memorandum, is now in the Ambrosian library at Milan. (Valéry, 'Voyages Littéraires.')

Here begins a new period of the life of Petrarca, and with it the second part of his love poetry. Hitherto he had written verses in praise of Laura: he now wrote verses "on Laura's death." He fancied himself in frequent communion with her spirit: he describes her as appearing to him in the middle of the night, comforting him, and pointing to heaven as the place of their next meeting. (Sonnet, beginning "Levommi il mio penser," and the other, "Né mai pietosa madre.") This delusion, if delusion it be, is the last remaining consolation of impassioned minds which have lost all that they valued in this world; and it has at least one beneficial effect, that of rendering life bearable and preventing despair. The second part of Petrarca's poetry is superior to the first in purity of feeling and loftiness of thought. He himself felt this, and he blessed the memory of her who, by the even tenour of her virtue, had been the means of calming and purifying his heart.

More than twenty years after Laura's death, when he was himself fast verging towards the grave, and when he was able to think of her with more composure, he drew from his memory a picture of the heart, the principles, and the conduct of the woman who had made all the happiness and all the misery of his life. He describes Laura as appearing to him through a mist, and reasoning with him on the happiness of death to a well-prepared mind; she tells him that when she died she felt no sorrow except pity for him. On Petrarca entreating her to say whether she ever loved him, she evades the question by saying that, although she was pleased with his love, she deemed it right to temper his passion by the coldness of her looks, but that, when she saw him sinking into despondency, she gave him a look of consolation and spoke kindly to him. "It was by this alternation of kindness and rigour that I have led thee, sometimes happy, sometimes unhappy, often wearied in truth, but still I have led thee to where there is no more danger, and I have thus saved us both. There has been little difference in our sympathy, except that thou didst proclaim thine to all the world, and I concealed mine. But complaint does not embitter suffering; nor does silence soften it."

We have dwelt at some length on this subject because it has acquired an historical importance, and has been the matter of much controversy. Unable to comprehend feelings with which they were unacquainted, some critics have sneered at the passion of Petrarca for Laura; others have doubted its existence;

whilst others again have disbelieved the purity of Laura's conduct. We have now however sufficient evidence to establish two facts: that the attachment of Petrarca for Laura was real and lasting; that Laura's conduct was above suspicion. She appears to have been imbued with religious sentiments, united with serenity of mind, self-possession, discretion, and good sense. There have been doubts expressed concerning the identity of the Laura of Petrarca with Laura de Sade, but the evidence is strong in favour of that identity (De Sade, 'Mémoires pour la Vie de F. Pétrarque;' Foscolo, 'Essays on Petrarch;' Baldelli, 'Del Petrarca e delle sue Opere,' 2nd edition, Fiesole, 1837; and the article "Noves, Laura de," in the 'Biographie Universelle.')

But the life of Petrarca was not spent in idle though eloquent wailings. He was an active labourer in the field of learning, and this constitutes his real merit and his best title to fame. Besides the works which he wrote, he encouraged literature in others, and he did everything in his power to promote sound studies. Petrarca was a great traveller for his age; he visited every part of Italy, and he went several times to France and Germany, and even to Spain. Wherever he went, he collected or copied MSS., and purchased medals and other remains of antiquity. At Arezzo he discovered the 'Institutions' of Quintilian; at Verona, Cicero's familiar letters: in another place, the Epistles to Atticus; at Liège he found some orations of Cicero, which he transcribed; he also speaks of Cicero's book 'De Gloria,' of Varro's treatise 'De Rebus Divinis et Humanis,' and of a compilation of letters and epigrams of Augustus, which he had once seen or possessed, but which has not come down to us. ('Rerum Memorandarum,' b. i.) He was liberal in lending MSS., and thus several of them were lost. He was the friend and instructor of Boccaccio, John of Ravenna, and other Italian and foreign contemporaries; and he was the founder of the library of St. Mark at Venice. He encouraged Galeazzo Visconti to found the university of Pavia. In his extensive correspondence with the most distinguished persons of his time, he always inculcated the advantages of study, of the investigation of truth, and of a moral conduct; he always proclaimed the great superiority of intellectual over corporeal pleasures. He and his friend Boccaccio are justly considered as the revivers of classical literature in Italy.

Petrarca acted an important part in affairs of state. He enjoyed the friendship of several popes, of the Correggio lords of Parma, of the Colonna of Rome, the Visconti of Milan, the Carrara of Padua, the Gonzaga of Mantua, of Robert, king of Naples, and of Charles IV., emperor of Germany. He was invited in turn by them all, was consulted by them, and was employed by them in several affairs of importance. He was sent by the nobles and people of Rome as their orator to Clement VI., in order to prevail on that pope to remove his residence from Avignon to Rome; and he afterwards wrote a Latin epistle to Urban V., Clement's successor, urging the same request, and the pope soon after removed to Rome, at least for a time. In 1340 the senate of Rome sent him a solemn invitation to come there and receive the laurel crown as a reward of his poetical merit. Petrarca accepted the invitation, and, embarking at Marseilles, landed at Naples, where King Robert, himself a man of learning, in order to enhance his reputation, held a public examination in presence of all his court during three days, in which various subjects of science and literature were discussed. At the termination of these meetings, King Robert publicly proclaimed Petrarca to be deserving of the laurel crown, and sent an orator to accompany him to Rome to assist at the ceremony, which took place on Easter-day in the year 1341, when Orso dell'Anguillara, senator of Rome, crowned the poet in the Capitol, in the presence of a vast assemblage of spectators, and in the midst of loud acclamations.

Petrarca had ecclesiastical benefices at Parma and at Padua, which were given to him by his patrons of the Correggio and Carrara families, and he spent much of his time between those towns. From Padua he sometimes went to Venice, where he became acquainted with the Doge Andrea Dandolo, who was distinguished both as a statesman and as a lover of literature. Venice was then at war with Genoa. Petrarca wrote a letter to Dandolo from Padua, in March, 1351, in which he deprecated these hostilities between two Italian states, and exhorted him to peace. Dandolo, in his answer, praised his style and his good intentions; but he defended the right of Venice, after the provocations that she had received from her rival. In the following year, after a desperate battle between the fleets of the two nations in the Sea of Marmara, Petrarca wrote from Vaucluse, where he then was, to the doge of Genoa, for the same laudable purpose of promoting peace. In the next year, 1353, the Genoese fleet was totally defeated by the Venetians off the coast of Sardinia; and Genoa in its humiliation sought the protection of John Visconti, archbishop and lord of Milan, the most powerful Italian prince of his time. Petrarca was staying at Milan as a friend of Visconti, who had made him one of his councillors, and as such he was present at the solemn audience of the deputies of Genoa and at the act of surrender. In 1354 Visconti sent Petrarca on a mission to Venice to negotiate a peace between the two republics. He was received with great distinction, but failed in the object of his mission. Soon after, John Visconti died, and his three nephews divided his dominion among them. The youngest and the best of them, Galeazzo, engaged Petrarca to remain at Milan near his person. In November, 1354, the Emperor Charles IV. arrived at Mantua from Germany; and he wrote to Petrarca, who had been in correspondence with him before, to invite him to his court. Petrarca repaired to Mantua, spent several days with the emperor, and accompanied him to Milan. Petrarca wished to persuade him to fix his residence in Italy; but the emperor, after being crowned at Milan and at Rome, hastened to return to Germany. However, before he left Italy, peace was proclaimed between Venice and Genoa. In 1356 Petrarca was sent by the Visconti on a mission to the emperor, whom they suspected of hostile intentions towards them. He met Charles at Prague, and having succeeded in his mission, he returned to Milan. In 1360 he was sent by Galeazzo Visconti on a mission to Paris to compliment King John on his deliverance from his captivity in England. He was well received by the king and the dauphin, and after three months spent at Paris he returned to Milan. The next year he left Milan to reside at Padua. The introduction into Italy of the mercenary bands, called "Companies," which the marquis of Montferrat and other Italian princes took into their pay, and which committed the greatest outrages, and the plague which they brought with them into Lombardy, were the reasons which induced Petrarca to remove to Padua. In 1362, the plague having reached Padua, he retired to Venice, taking his books with him. Soon after his arrival, he offered to bequeath his library to the church of St. Mark. The offer was accepted; and a large house was assigned for the reception of Petrarca and his books. This was the beginning of the celebrated library of St. Mark, which was afterwards increased by Cardinal Bessarion and others. At Venice, Petrarca was visited by his friend Boccaccio, who spent three months in his company. Petrarca passed several years at Venice, honoured by the doge and the principal senators, and now and then making excursions to Padua, Milan, and Pavia, to visit his friends the Carrara and Galeazzo Visconti. About 1368 he received a pressing invitation from Pope Urban V., who had fixed his residence at Rome, and who wished to become acquainted with him. Petrarca had a great esteem for Urban's character; and he determined, notwithstanding his age and his infirmities, on a journey to Rome; but, on arriving at Ferrara, his strength failed him; he fell into a swoon, and remained for thirty hours apparently dead. The physicians declaring that he was unable to proceed to Rome, he was taken back to Padua, where he then resided. From Padua he removed, in the summer of 1370, to Arquà, a pleasant village in the Euganean Hills, where he enjoyed a pure air and retirement. He built a house there, and planted a garden and orchard; this is the only residence of the numerous houses which he had at Parma, Padua, Venice, Milan, Vaucluse, and other places, which still remains, and is shown to travellers. In this retirement he resumed his studies with fresh zeal. Among other things, he wrote his book 'De sui ipsius et multorum aliorum Ignorantia,' intended as a rebuke to certain Venetian freethinkers who, inflated with the learning which they had gathered from Averroes' 'Commentaries on Aristotle,' of which a Latin translation had spread into Italy, sneered at the Mosaic account of the creation, and at the Scriptures in general. In this work Petrarca acknowledges his own ignorance, but at the same time he exposes the ignorance of his antagonists. With regard to Aristotle he says that 'he was a great and powerful mind, who knew many things, but was ignorant of many more.' As for Averroes, who discarded all revelation, and denied the immortality or rather the individuality of the human soul, Petrarca urged his friend Father Marsili of Florence to refute his tenets. ('Epistolæ sine Titulo,' the last epistle.) But the tenets of Averroes took root at Venice and at Padua, where many professors, down to the time of Leo X., adopted them, and commented on the works of the Arabian philosopher. It has even been said that Poliziano, Bembo, and others of the distinguished men who gathered round Lorenzo de' Medici and his son Leo X. entertained similar opinions.

The air of the Euganean Hills did not restore Petrarca to health; and the news of Urban V.'s return to Avignon, and of his subsequent death, caused him much grief. His successor, Gregory XI., to whom he was also personally known, wrote to Petrarca, A.D. 1371, a most kind letter, inviting him to his court. But Petrarca was unable to move. He was often seized with fits, and sometimes given up for dead. He wrote to Francisco Bruni, the Apostolic secretary, that "he should not ask the pope for anything, but that if his Holiness chose to bestow on him a living without cure of souls, for he had enough to take care of his own soul, to make his old age more comfortable, he should feel grateful, though he felt that he was not long for this world, for he was waning away to a shadow. He was not in want; he kept two horses, and generally five or six amanuenses, though only three at the present moment, because he could find no more. He could have more easily obtained painters than transcribers. Although he would prefer to take his meals alone, or with the village priest, he was generally besieged by a host of visitors or self-invited guests, and he must not behave to them as a miser. He wanted to build a small oratory to the Virgin Mary, but he must sell or pledge his books for the purpose." ('Variarum Epistolarum,' the 43rd.) Some months after (January, 1372), writing from Padua to his old college friend Matthew, Archdeacon of Liège, he says, "I have been infirm these two years, being given up several times, but still live. I have been for some time at Venice, and now I am at Padua, performing my functions of canon. I am happy in having left Venice, on account of this war between the republic and the lord of Padua. At Venice I should have been an object of suspicion, whilst here I am cherished. I spend the greater part of the year in the country; I read, I think, I write; this is my existence, as it was in the time of my youth. It is astonishing that, having studied so long, I have learnt so little. I hate no one, I envy no one. In the first season of my life, a time full of error and presumption, I despised everybody but myself; in a more mature age I despised myself alone; in my old age I despise almost everybody, and myself most. . . . Not to conceal anything from you, I have had repeated invitations from the pope, the king of France, and the emperor, but I have declined them, preferring my liberty to all."

In September, 1373, peace was made between Venice and Francis of Carrara, lord of Padua. One of the conditions was that the latter should send his son to Venice to ask pardon and swear fidelity to the republic. The lord of Padua begged Petrarca to accompany his son. Petrarca appeared before the senate, and pronounced a discourse on the occasion, which was much applauded. After his return to Padua he wrote his book 'De Republica optime administranda,' which he dedicated to his patron and friend Francis of Carrara.

The following year his health grew worse; a slow fever consumed his frame. He went as usual to Arquà for the summer. On the morning of the 18th of July one of the servants entered his library and found him sitting motionless, with his head leaning on a book. As he was often for whole hours in that attitude, the domestics at first took no notice of it, but they soon perceived that their master was quite dead. The news of his death soon reached Padua. Francis of Carrara, accompanied by all the nobility of Padua, the bishop and chapter, and most of the clergy, repaired to Arquà, to attend the funeral. Sixteen doctors of the university bore his remains to the parish church of Arquà, where his body was interred in a chapel which Petrarca had built in honour of the Virgin Mary. Francesco da Brossano, his son-in-law, raised him a marble monument supported by four columns; and in 1667 his bust, in bronze, was placed above it. On one of the columns the following distich was engraved:—

> "Inveni requiem; spes et fortuna valete;
> Nil mihi vobiscum est, ludite nunc alios."

Petrarca had two natural children, a son and a daughter. The son died before his father. The daughter, Tullia, married, in her father's lifetime, Francesco da Brossano, a Milanese gentleman, whom Petrarca made his heir. He left legacies to various friends, and among others to Boccaccio, who did not survive him long. The portraits of Petrarca are numerous, but they differ from one another; that which is considered the most authentic is at Padua, in the episcopal palace, above the door of the library. It is a fresco painting, which was cut out of the wall of the house of Petrarca at Padua, when it was pulled down in 1581. (Valéry, 'Voyages Littéraires.') An engraving of it is given at the head of the handsome edition of Petrarca's verses by Marsand.

The works of Petrarca are of three kinds: 1, his Italian poetry, chiefly concerning Laura; 2, his Latin poetry; 3, his Latin prose. His Italian poetry, called 'Il Canzoniere,' or 'Rime di Petrarca,' consists of above 300 sonnets, about 50 canzoni, and 3 short poems, in terza rima, styled 'Trionfo d' Amore,' 'Trionfo della Morte,' and 'Trionfo della Fama.' Petrarca's 'Canzoniere' has gone through more than 300 editions, with and without notes and commentaries. The best is that edited by Professor Marsand, 2 vols. 4to., Padua, 1819-20, with a biography of Petrarca, extracted from his own works. The character of Petrarca's poetry is well known. Its greatest charm consists in the sweetness of numbers, "enlivened by a variety, a rapidity, and a glow which no Italian lyric has ever possessed in an equal degree. The power of preserving and at the same time of diversifying the rhythm belongs to him alone; his melody is perpetual, and yet never wearies the ear. His canzoni (a species of composition partaking of the ode and the elegy, the character and form of which are exclusively Italian) contain stanzas sometimes of twenty lines. He has placed the cadences however in such a manner as to allow the voice to rest at the end of every three or four verses, and has fixed the recurrence of the same rhyme and the same musical pauses at intervals sufficiently long to avoid monotony, though sufficiently short to preserve harmony. It is not difficult therefore to give credit to his biographer, Filippo Villani, when he assures us 'that the musical modulation of the verses which Petrarch addressed to Laura flowed so melodiously, that even the most grave could not refrain from repeating them. Petrarch poured forth his verses to the sound of his lute, which he bequeathed in his will to a friend; and his voice was sweet, flexible, and of great compass.'" (Foscolo, *Essays on Petrarch*, 'On the Poetry of Petrarch.') That in Petrarca's sonnets there is too much ornament, that he indulges too much in metaphors, that his antitheses are often forced, and his hyperboles almost puerile, all this is true; and yet there is so much delicacy and truth in his descriptions of the passion of love, and of its thousand affecting accessories, that he awakens associations and recollections in every heart, and this is perhaps the great secret of the charm of his poetry, notwithstanding its perpetual egotism. There is much to choose among his sonnets, many of which, especially those which he wrote after Laura's death, are far superior to the rest in loftiness of thought and expression. He borrowed little from the Latin poets, and much from the Troubadours; but his finest imitations are from the sacred writings. He improved the materials in which the Italian language already abounded, and he gave to that language new grace and freshness. No term which he employed has become obsolete, and all his phrases may be and still are used in the written language. Far inferior to Dante in invention, depth of thought, and in boldness of imagery, Petrarca is superior to him in softness and melody. Dante was a universal poet; he describes all passions, all actions; Petrarca paints only one passion, but he paints it exquisitely. Dante nerves our hearts against adversity and oppression; Petrarca wraps us in soft melancholy, and leads us to indulge in the error of depending upon the affections of others, and his poetry, chaste though it be, is apt to have an enervating influence on the minds of youth. At a more mature age, when man is sobered by experience, Petrarca's poetry produces a soothing effect, and, by its frequent recurrence to the transitoriness of worldly objects, may even have a beneficial moral influence. There are some of his canzoni which soar higher than the rest in their lyric flight, especially the one which begins 'Italia mia,' and which has been often quoted; and another which he wrote in 1333, when a new crusade was in contemplation. His beautiful canzone, or 'Ode to the Virgin,' with which he closes his poetry about Laura, is also greatly admired for its sublimity and pathos.

Petrarca's Latin poetry consists, 1, of the 'Africa,' an epic on the exploits of Scipio in the second Punic war, a dull sort of poem, with some fine passages: it was however much admired at the time; 2, Epistles, in verse, addressed to several popes, for the purpose of urging their return to Rome, and also to several friends; 3, Eclogues or Bucolics, which are acknowledged by himself to be allegorical, and were, in fact, like Boccaccio's eclogues, satires against the powerful of his time, and especially against the papal court of Avignon.

Ginguené, in his 'Histoire Littéraire,' and others, have endeavoured to find the key to these allegories. The sixth and seventh eclogues are evidently directed against Clement VI., and the twelfth, entitled 'Conflictatio,' has also some violent invective against the papal court. This circumstance has given rise to strange surmises, as if Petrarca were a secret heretic, an enemy of the church of Rome, belonging to some supposed secret society. We know from Petrarca's own letters, especially those styled "sine titulo," that he spoke very plainly to his friends concerning the disorders and vices of the papal court, which he called the modern Babylon, the Babylon of the West. He says that Jesus Christ was sold every day for gold, and that his temple was made a den of thieves; but we also evidently see that in all these invectives he spoke of the discipline of the church, or rather of the abuses of that discipline, and not of the dogmas—things which have been often confounded, both by the advocates and the enemies of Rome. Petrarca, and many other observing men of that and the succeeding century, could not be blind to the enormous abuses existing in the church; but their indignation was poured out against the individuals who fostered those abuses, and they never thought of attacking the fabric itself. This was especially the case in Italy. There might be in that country some unbelievers and scoffers at revelation, but there were no heretics. There were many who openly charged the pope and his court with heinous crimes, but who felt a sort of loathing at the very name of heretic or schismatic.

Petrarca was not a man of extremes: his dislike of the papal court of Avignon originated in two feelings, one of honest indignation against its corruptions, and another of national or rather classical attachment to Rome, which made him urge with all his powers of persuasion the return of the head of the church to a residence in that city. Of several popes, such as Urban VI. and Gregory XI., he speaks in terms of great respect and personal attachment. He went to Rome expressly to attend the jubilee of 1350, and, as he states in his letters to Boccaccio ('Epistolæ Familiares'), for the sake of obtaining the plenary indulgence, and "with a firm resolve of putting an end to his career of sin." He gives some account of that jubilee, and of the vast number of pilgrims who resorted to Rome on the occasion. After having visited the churches and performed his devotions, he wrote that "he had now become free from the plague of concupiscence, which had tormented him till then, and that in looking back to his past life, he shuddered with shame." ('Epistolæ Seniles,' viii. 1.) So much for those who would persuade us that Petrarca was a concealed heretic. But Petrarca, though religiously disposed, was far from superstitious. He was one of the few of his age who spurned astrology, and yet, strange to say, a cardinal had nearly persuaded Pope Innocent VI. that he was a magician, because he was familiar with strange books—a very serious charge in those times. Petrarca's letter of advice to Boccaccio, when he thought of turning monk, is a lasting monument of sound religion and good sense.

The Latin Epistles of Petrarca are the most important of his prose writings. We have no Italian prose of his except two or three letters to James Colonna, which show that he was not much in the habit of corresponding in that language. Petrarca's Epistles are very numerous; they embrace a stormy and confused period of nearly half a century, for the history of which many of them afford ample and trustworthy materials. Petrarca was one of the earliest and most enlightened travellers of modern Europe; he was an eye-witness of many important events; he corresponded with kings, emperors, popes, statesmen, and men of learning. His Letters have not been sufficiently noticed by historians: many of them are scattered MSS. in various libraries, and we have no complete edition of them arranged in order of time. Those which have been published are classed as follows:—1, 'Epistolæ de Rebus Familiaribus,' in viii. books; 2, 'De Rebus Senilibus,' written in Petrarca's old age, in xvi. books; 3, one book 'Ad Viros quosdam ex Veteribus Illustriores;' (these epistles are addressed to various historical characters of antiquity;) 4, one book 'Variarum Epistolarum;' 5, one book 'Epistolarum sine Titulo.'

Professor Levati, of Milan, has composed out of the Epistles of Petrarca a work descriptive of the manners and history of his age, in which he gives copious extracts translated into Italian: 'Viaggi di Francesco Petrarca in Francia, in Germania, ed in Italia,' 5 vols. 8vo., Milan, 1820. Professor Meneghelli, of Padua, published in 1818, 'Index F. Petrarchæ Epistolarum quæ editæ sunt, et quæ adhuc ineditæ;' but his list, as he himself admits, is not complete. Domenico de' Rossetti, of Trieste, has published a bibliography of the works of Petrarca, their various editions, commentators, &c., and he has also edited a biography of Petrarca by his friend Boccaccio. 'Serie Cronologica di Edizioni delle Opere di Petrarca,' Trieste, 1834.

There are other prose works of Petrarca, besides those already mentioned. Of his Latin style the following judgment is given by an Italian scholar: "In modelling his style upon the Roman writers he was unwilling to neglect entirely the fathers of the church, whose phraseology was more appropriate to his subjects; and the public affairs being, at that period, transacted in Latin, he could not always reject many of those expressions which, originating from barbarous ages, had been sanctioned by the adoption of the universities, and were the more intelligible to his readers. In sacrificing gravity, he gained freedom, fluency, and warmth; and his prose, though not a model for imitation, is beyond the reach of imitators, because it is original and his own." (Foscolo "On the Poetry of Petrarch.") Petrarca's 'Opera Omnia' were published at Basle, in 1581, 2 vols. folio. Biographies of Petrarca have been written by Villani, Vergerio, Tomasini, Leonardo Aretino, and many others: the best are—Baldelli 'Del Petrarca e delle sue Opere,' 2 vols. 8vo.; 'Mémoires pour la Vie de Pétrarque, avec des Pièces justificatives,' 3 vols. 4to, Amsterdam, 1764; Foscolo, 'Essays on Petrarch.'

ASIA.

By CARL RITTER; AND OTHERS.

Under the name of Asia we at present comprehend all the countries to the east of Europe and northern Africa. The same name was also applied by the Greeks to the countries bordering on the eastern shores of the Mediterranean Sea, and extending thence indefinitely eastward. Herodotus confesses that he is unable to account for the origin of the name. Homer (*Il.* ii. 461) mentions an *Asian* plain lying near the shores of the Ægean Sea between Ephesus and Sardis; and the traditions of the Lydians speak of a king Asius. Hence it seems probable that this name was originally applied to a small district on the western coast of Asia Minor; and in the progress of time, as the countries east of it became known to the Greeks, the name of Asia became co-extensive with their discoveries, till at length it was customary to designate by it one of the great divisions of our globe.

At present the name of Asia Minor, or Anatolia, is given to the large tract of country which is bounded on the north by the Black Sea, on the west by the Archipelago, and on the south by the eastern portion of the Mediterranean.

I. *Asia as known to the Greeks and Romans.*—From the earliest records of European history, the Homeric poems, we learn that an intercourse existed, before the war of Troy, between the inhabitants of Europe and Asia. But as far as we can infer from our authorities, it was more of a hostile than a pacific nature. Commercial exchange seems to have been nearly confined to a few Phœnician vessels which visited the islands of the Archipelago and some ports of Greece, and even with them piracy appears to have been as important an object as commerce. Though the Phœnicians visited the ports of Greece, the inhabitants of that country went only to a few places on the western coast of Asia Minor, and perhaps occasionally to Tyre; and their geographical knowledge of Asia was consequently circumscribed within very narrow limits. But confined as their navigation was for a long time, it at last contributed to bring about the settlement of the Greek colonies in Ionia; and this event was followed by another of greater importance in a geographical point of view, namely, the extension of the navigation of these colonies to the countries round the Black Sea, and the exclusion of the Phœnicians from the commerce of this part of the world. The subjection of the Greek colonies in Asia Minor to the kings of Lydia seems not to have injured their commerce, and it doubtless extended their knowledge at least as far as the Halys, the boundary of the kingdom of Crœsus, and perhaps somewhat beyond it.

The progress of geographical knowledge, which hitherto had been very slow, was accelerated by the establishment of the Persian monarchy, B.C. 559. The different states into which western Asia had hitherto been divided, and which had much impeded the commercial intercourse of its inhabitants, were incorporated into the extensive Persian empire, which comprehended nearly all the countries between the Mediterranean Sea on the west, and the Belur-Tagh on the east, the Caspian Sea on the north, and the mountains which border the valley of the Indus on the south: these countries were inhabited by twenty-nine different nations. The Greek colonies on the coast of Asia Minor, upon the overthrow of the Lydian kingdom by Cyrus, had been compelled to submit to the Persian monarch, which circumstance soon led to the intimate acquaintance of the Greeks with Asia beyond the limits of Asia Minor. We may judge of the rapid progress made by the Ionian Greeks in their knowledge of Asia, when we find that hardly fifty years after the foundation of the Persian monarchy, Aristagoras, the governor of Miletus, the most commercial and powerful of these colonies, was able to produce at Sparta a copper tablet or map (Herod. v. 49)—the first of which we have any distinct record[*]—on which the countries and military stations between Ionia and Susa, one of the residences of the Persian king, were exhibited. About the same time the Persian dominion over all the above-mentioned countries being firmly established, a regular plan of administration was formed by Darius the son of Hystaspes; this king probably caused a geographical and statistical account of the whole empire to be composed, a custom common in Asia at more recent periods, as the *Ayin-i-Akbari* of the Mogul emperors shows, and one still in use in the Chinese empire. Some such work as this must have existed in Persia, for otherwise we can hardly account for the geographical description of the empire which Herodotus has inserted in his history (iii. 89, &c.; vii. 61, &c.) The sketch of the Greek Historian enables us to form a pretty exact idea of all the countries subject to the Persian monarchs, and even of those which he had not an opportunity of examining personally. His information about the countries of Asia beyond the boundaries of the Persian empire is scanty, and much less exact: as it was acquired by oral communication with travellers and traders, it is not surprising that it is often incorrect and mixed with extravagant stories, though even these sometimes contain valuable facts, and the Greek Historian never gives a hearsay report as anything but what it is.

Before the time when Herodotus wrote, the Persian empire had become stationary. Accordingly we find that the geographical knowledge of the Greeks, for more than a century, did not advance beyond the ancient boundaries of that empire. But as the intercourse, both hostile and pacific, between the Greeks and Persians had during that period considerably increased, their knowledge of the different provinces composing the Persian empire was also enlarged. The most valuable information of this kind we find embodied in Xenophon's 'Anabasis, or the Expedition of the Ten Thousand.'

[illegible]as usual for the Persian kings to have Greek physicians about their persons, as we see in the instance of Democedes (Herod. iii. 129, &c.), Ctesias, and others. Such men had of course considerable opportunities for acquiring exact information. If the work of Ctesias had come down to us entire, we might have formed a better estimate of the value of his history of Persia, now known to us solely by the extracts of Photius, Diodorus of Sicily, and a few other writers.

The foundation of this extensive empire had proved advantageous to the diffusion of geographical knowledge among the Greeks of Europe and Asia: its destruction also was favourable to the progress of geography. By the conquests of Alexander, the remoter provinces of the Persian monarchy, of which a great part till then had only been known in such general outlines as those given by Herodotus, and by the vague information of individuals, were at once opened to the Greeks, who had been prepared for increasing their geographical information by their education and previous habits. The operations of military expeditions and the observations of military men have always rendered signal services to geography. Alexander attempted to cross the boundaries of the Persian empire on the north and on the south; and though his success was limited in the former quarter, the Greeks began from that time to have some notion of the nomadic tribes beyond the Jaxartes (*Sir-Sihon*), who then, as at present, wandered about in those extensive deserts. But his attempts on the south and east were crowned with success. He crossed the Indus and four of the rivers which traverse the Penjab, and he had advanced to no great distance from the banks of the Jumna and the valley of the Ganges, when he was obliged to abandon his design of conquering India, owing to a mutiny of his army. On his return to Persia, he made an important addition to the geographical knowledge of the Greeks by exploring with his army and navy the course and the valley of the lower Indus, and still more by ordering his admiral, Nearchus, to sail along the coast from the Delta of the Indus to the mouth of the Euphrates. Besides the geographical knowledge acquired by these military operations, and the successful execution of the orders of the Macedonian conqueror by his admiral, this expedition first gave the Greeks a more exact notion of the great extent of India, of its riches, and the character of the nations which inhabit this great peninsula. The geographical information acquired during the expeditions of Alexander was incorporated in a map by one of his companions in arms, Dicæarchus, a pupil of Aristotle.

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[*] Anaximander is said by Agathemerus to have made the first maps.

The information which resulted more remotely from the conquests of Alexander contributed somewhat to a more exact knowledge of eastern Asia. The Macedonian king destroyed Tyre, and transferred its commerce to Alexandria, which he founded near the western or Canopic mouth of the Nile. As the Phœnicians, for perhaps a thousand years and upwards, had carried on a lucrative commerce with the countries to the east and south of the Persian empire, especially with India by way of the Persian Gulf and the Red Sea, their merchants had frequent opportunities of collecting such information as tended to increase their commercial advantages. Accordingly the Phœnicians had more nautical and geographical knowledge than any other nation of the ancient world, and they had embodied it in writings. These writings also were transported to Alexandria, and probably aided the merchants of the new emporium in entering at once into the path of their commercial predecessors, and renewing the intercourse between Europe and India by the Nile and the Red Sea, which had been interrupted by the expeditions of Alexander. Accordingly we find that, soon after the death of the founder of Alexandria (B.C. 323), Egyptian vessels from the ports of the Red Sea began to visit the shores of Malabar, and to venture as far as Cape Comorin and the island of Ceylon, which was called Taprobane by the Greeks. But though the geographical information acquired by commerce is often of the most valuable kind, its progress is extremely slow even in our time, and must have been still more so among the ancients on account [illegible] the numerous defects of their ship-building, and the backward state of their navigation. Besides, such information is commonly limited to the harbours and shores, and rarely extends to any great distance in the interior. Accordingly we find, that though the commercial intercourse between Alexandria and India was continued without interruption for many centuries, the additional geographical knowledge was scanty; and though many of the harbours of Malabar were annually visited by Egyptian vessels, the information thus obtained concerning Ceylon, the coast of Coromandel, and the country farther to the east, is limited to a few places, and was obviously obtained by the Greeks of Egypt from native navigators, none of them probably having ventured to advance beyond the island of Ceylon and Cape Comorin.

The successors of Alexander, being almost continually engaged in wars among themselves, did not disturb the unsubdued nations which surrounded the Greek empire in Asia, with the exception of Seleucus Nicator, king of Syria, who made, it is thought, a successful attempt to subdue a part of the valley of the Ganges. This opinion rests on the statement of Pliny (vi. 17). It is, however, certain that he sent an ambassador, Megasthenes, to Sandrocottus, king of the Prasii, to whom a considerable part of Hindustan was subject, and to this individual we owe some further particulars respecting India and its inhabitants. (Strabo, 702, 724, &c.) The Greek Empire of Bactria, whose kings remained for many years in possession of the Indian conquests of Alexander, may have added to the previous knowledge of the Greeks concerning that country; but the records of this empire which have come down to our times, are few and imperfect.

Most of the Greek kingdoms in Asia were destroyed by the Romans, but they did not extend their dominion over all the provinces which once belonged to the Persian monarchy. The extreme eastern boundary of the Roman empire was formed by the Tigris, the Euphrates, and the mountains of Armenia. Their military expeditions being carried on in countries previously known, could add very little to the geographical knowledge of Asia. We ought, however, to make an exception with respect to the Caucasus. In their wars with Mithridates, king of Pontus, the armies of the Romans passed the boundaries of the known world, and arrived at Mount Caucasus, with whose extent and situation they became acquainted, though they did not enter the valleys which lie in its bosom. In proceeding farther to the shores of the Caspian Sea, they got information of a commercial road through Bactria, by which the countries on the south of the Caspian Sea carried on an active commerce with India; and soon after another route was discovered, which led over the high table-land of Upper Asia to the Seres or Chinese, probably the road which still passes through the town of Kashghar. Nothing further was added to our geographical knowledge of Asia by the military expeditions of the Romans; but the immense riches which many Roman families had accumulated during the commonwealth, and which still continued to increase under the empire, created a taste and demand for the exquisite productions of India and eastern Asia, and accordingly we find that not only the lately discovered roads to China and India were much frequented by merchants, but also that the commercial enterprise of Alexandria was so increased, that in the time of Strabo a hundred and twenty vessels were annually sent to the coast of Malabar. This intercourse was considerably facilitated by the discovery of the monsoons in the Indian Sea by Hippalus (Hudson's *Minor Geogr.* vol. i. *Periplus of the Erythrean Sea*): this passage has been sometimes interpreted as if the discovery of the monsoons was made about the time this Periplus was written, but there can be no doubt that navigators had availed themselves of the periodical winds long before that time.

The knowledge which the ancients acquired concerning the geography of Asia is embodied in the systematic works of Strabo, of Pliny, and of Ptolemy of Alexandria, the last of whom raised geography to a science by basing it on astronomical facts. From these writers it is evident that only those countries into which the Macedonian conqueror had carried his arms were known with some degree of correctness as to their general features, and that beyond them the knowledge of the Greeks was limited to a few places traversed by commercial roads, and to the harbours which were frequented by trading vessels. Ptolemy was acquainted with the roads which lead over the high table-land in the centre of Asia to the Seres, as well as that through Bactria to India. He also had some knowledge of the north-western extremity of the Himalaya range (called by him Imaos or Himaos) and of Cashmere. He was well acquainted with the coasts of Arabia and Persia, and with those of India as far as Cape Comorin. The island of Ceylon, which at that time was the common resort of the eastern and western navigators of the Indian Sea, was also pretty well known to him, though the dimensions assigned to it are very erroneous. In its neighbourhood he states there were found 1378 islets, by which probably the Laccadives and Maldives are meant: and he mentions Jabadia (Yavadwīpa), *i. e.*, "the barley-island," as Java is called in Sanskrit, on account of its fertility. He is, however, less acquainted with the coast of Coromandel, and still less with the countries to the east of the Bay of Bengal, where the Aurea Chersonesus evidently represents the peninsula of Malacca, on which the port of Zaba was situated, probably in the neighbourhood of Singapore. Then follows the Sinus Magnus, or the Gulf of Siam, after traversing which, by a voyage of twenty days, the emporium of Cattigara is reached, the harbour of the Sinæ or Chinese, a place which must be sought for in the neighbourhood of Canton; and farther to the east Ptolemy places the Thinæ Metropolis (probably Canton) which is the extreme boundary of his geographical knowledge on the east side of Asia.

Besides these works, the *Periplus* of Nearchus, and another probably written in the second century, and attributed to Arrian, give a more particular description of the coast of eastern Africa and of Asia. Another Periplus likewise, which certainly is the work of Arrian, contains a brief coast description of the Pontus Euxinus (Black Sea). As to the geography of northern Asia, few additions seem to have been made after the time of Herodotus and Alexander. In some respects there seems to have been a retrograde movement, as the father of history knew the Caspian to be a lake, which Strabo and Pomponius Mela believed to communicate with the Northern Ocean. Herodotus states its length and breadth with tolerable accuracy, though he does not say in what direction the greatest length lay; but his assertion that it had no communication with any other sea is perfectly distinct (Herod. i. 202). Ptolemy in his map restored the Caspian to its true character of an inland sea, but he placed its length from east to west.

II. *Asia as known in the Middle Ages.*—Though the Byzantine empire did not fall before the invasions of the northern barbarians, it was hemmed in on every side by powerful enemies. On its eastern boundaries, the kingdom of the Parthians was replaced by that of the Persians under the dynasty of the Sassanidæ, who, acting with all the vigour of newly-founded governments, stopped the progress of the Roman arms on that side. Consequently, the accession of geographical knowledge concerning Upper Asia was extremely scanty, but some information was obtained of the countries to the north of the Jaxartes, and of some parts of India. For the first we are indebted to an embassy of the Emperor Justinian II., who sent in 569 one of his governors to one of the wandering tribes of the Turks in the steppes on the west and south of the Altai Mountains, and about the lake of Saisin, or Zaizang, with the view of inducing them to attack their common enemy, the Persians, without foreboding that the descendants of this very people, after a lapse of nearly nine hundred years, would destroy his own empire, and choose Constantinople for their metropolis. Nearly about the same time, an Egyptian merchant, Cosmas, surnamed Indicopleustes, who for a long time had carried on a trade with India, and repeatedly visited that country, composed his *Topographia Christiana*, in which he gives some new information respecting Ceylon, called by him Selediva, instead of the ancient name of Taprobane, of the commerce of that island with Tsinitza, or China, and of the roads through Upper Asia, by which the silk fabrics of this country were brought to Persia and Constantinople.

But the channels of geographical information were soon closed. The fanaticism of the newly-founded religion of Mohammed bore down all resistance, and in a short time Egypt and the Asiatic provinces of the Byzantine empire, except Asia Minor, were subjected to the Arabs and their Caliphs; the kingdom of the Sassanidæ also was incorporated in their widely-extended dominions. The intolerance by which the Mohammedans, in the first two centuries of the Hegira (commencing A.D. 622) were distinguished, interrupted every sort of commercial intercourse with India as well as with Upper Asia, and the distracted condition of the Byzantine empire, and the state of barbarism in which the western nations of Europe were sunk during the earlier part of the middle ages, was such as to deprive them for more than two centuries of any additional knowledge concerning the countries of the East. From the close of the sixth century to the beginning of the Crusades, no new facts were added to European knowledge of Asia.

Circumstances, however, arose which led the Mohammedans of the Caliphat to abate their intolerance and to adopt a more enlightened policy. Science began to be cultivated, arts to flourish, and commerce to be promoted among them. Geography had its full share of the advantages resulting from this favourable change. As every true Mohammedan was bound by his religious tenets to visit at least once in his life the Kaaba of Mecca, travelling became more frequent among the Arabians than it ever has been in any other nation; and as the love of letters increased and became more general, the number of their geographical works, travels, and voyages increased in the same proportion. Many of their works are still unknown, and others are still inaccessible to European readers, but some have been translated. The most important are the 'Oriental Geography,' translated by W. Ouseley, London, 1800, which was written in the beginning of the tenth century; the 'Travels of Ibn Haukal the Arabian,' written about fifty years later; the 'Geography of Edrisi' (1153), arranged, like that of Ptolemy of Alexandria, according to climates; the 'Geography of Abulfeda' (1345); the 'Geography of Ibn el Wardi' (1371); and the 'Travels of Ibn Batuta' (1324-1351), translated by Professor Lee of Cambridge, London, 1829. Ibn Batuta was the greatest traveller that ever lived. He visited Timbuctoo and the Ural Mountains, Adam's Peak in Ceylon, the eastern coast of China, and Tanger in Africa (which was his birth-place), and he traversed all the countries between these extreme points.

The Arabs seem also at an early period to have renewed the commercial intercourse with India by the Red Sea and the Gulf of Persia, and to have soon extended their navigation beyond the extreme limits attained by the Greeks of Alexandria. They were prompted to despise the dangers of such a perilous navigation as much by zeal for propagating their creed as by the love of gain, and they succeeded in converting the inhabitants of the Peninsula of Malacca and some of the islands of the Indian Archipelago. There are extant two works on the countries about the seas of China, written, as it is conjectured, by Ibn Wahab and Abu Seid about the end of the ninth century. The latter composed only a commentary on the writings of the former. Though it is possible that neither of these voyagers reached Canfu (Canton), they collected very interesting information on the southern provinces of China, its productions and manufactures; some historical facts which they mention respecting an insurrection in these districts in 878 are confirmed by the annals of the Chinese empire, a coincidence which shows the authenticity of these works.

But the Arabs did still more for geography by establishing it as a science on mathematical and astronomical principles, and thus following up the work of Ptolemy. The Calif Al Mamun (813-833) ordered a degree of the meridian to be measured, and this task was executed by the three brothers Ben Shaker in the great plain to the north-east of Damascus, between Palmyra and Racca on the banks of the Euphrates. In subsequent attempts at the projection of maps, the Arabs soon became sensible of the want of exact astronomical observation. This led them to the erection of observatories, and to the compilation of astronomical tables. Two works of this kind still exist: one composed about A. D. 1343, in the observatory built at Maragha, near the lake of Urmia; and the other in 1449 at Samarcand; the data contained in them, especially in the latter collection, formed till lately the principal basis on which our maps of the countries to the south of the Caspian Sea, and to the north of the mountains of Cabul and of the Hindu-kush range, were constructed.

Among the nations of Asia none perhaps has done more to increase the stock of geographical knowledge concerning this great division of the globe than the Chinese. The historical records of their empire prove clearly, that two hundred years before our æra the Chinese were anxious to collect geographical information concerning the extensive provinces and tributary kingdoms of their dominions; and they have continued this work to the present day. Neither opportunities nor inducements were wanting for that purpose. An empire of such magnitude as the Chinese always has been, which frequently comprehended half the surface of Asia, renders the exact knowledge of the condition of its provinces, and of their inhabitants, a matter of necessity to the government. Besides the information thus collected by means of the administration of the different provinces, the emperor was in the habit of sending ambassadors to the tributary princes and nations, and to those who, from time to time, sent presents to the court of the Celestial Empire. These ambassadors were instructed to collect useful information concerning the countries to which they were sent and to include it in their reports of the embassies: the reports were afterwards deposited in the archives of government. From such materials the geographies of the Chinese empire were composed and published, the art of printing having come into general use among the Chinese in the tenth century. These works contain very abundant information concerning Tartary, Corea, Tibet, Turkistan, and Bucharia, and even valuable notices on Siberia, Persia, and India, as well as on Siam, Tonkin, Java, Formosa, and Japan. Till very lately indeed this information was useless to the geographer, the study of the Chinese language not having been attended to by Europeans. But the number of those who now study this language is daily increasing, and we may soon hope to get access to these writings, which is the more desirable as most of the countries described in the Chinese works are still inaccessible to our merchants and travellers. The most copious geographical and ethnographical information about the eastern countries of Asia in the middle ages, before the establishment of the Mongol empire, is contained in the historical library of Ma-tu-an-lin, the most learned man of his time, who, in his work entitled 'Wen-hian-thung-khao' (Exact Researches of old Monuments), consisting of a hundred volumes, in 348 books, has given an epitome of Chinese literature to A.D. 1207. This great work is characterized by more judgment and accuracy than the similar compilation of Pliny the elder. Nine books are devoted to the geographical description of China, at the different periods of the native dynasties; and twenty-five contain the description of the foreign countries and nations.

Europeans began to renew their acquaintance with the countries of Asia on the shores of the Mediterranean in the eleventh century by pilgrimages, and soon afterwards by the Crusades (1096-1272) which were undertaken for the delivery of the Holy Sepulchre from the infidels. The navies of the Italian republics accompanied these expeditions, and the citizens of Pisa, Florence, Genoa, and Venice had thus an opportunity of forming a correct idea of the advantages likely to result from a commercial intercourse with western Asia. Following up these views, they entered into a very lucrative commerce, and brought by their vessels the most valuable products to Europe. The Genoese, in 1261, having got possession of Galata and Pera, suburbs of Constantinople, and with them the exclusive commerce of the Black Sea, extended their commercial speculations to India through the Crimea, Caffa, La Tara (Azof on the Don), Astrakhan, Urgenz (Khiwa), and Tashkend, of which route the interesting work of Balducci Pegoletti, entitled 'Libro de' Divisamenti dei Paesi e Misure,' written in 1335, gives some information. Their rivals, the Venetians, had come to an agreement with the sultans of Egypt, by which the direct road to India through the Red Sea was opened to them, and the sudden increase of the wealth of the republic proved that they knew how to profit by these advantages.

Whilst the Italian republics, from mercantile motives, kept to themselves the scanty information which they had acquired by their commercial intercourse with Asia, the western nations of Europe were at once brought into political connexion with those who inhabited the northern and inland parts of this continent. This was effected by the conquests of Ghengis-khan and his successors. Soon after the death of Ghengis-khan, who had extended his dominion in little more than twenty years (1206-1227) over all the inland countries of Asia from the boundary of Siberia to that of India and Tibet, the Mongols entered Europe across the Volga, subjected Russia, laid prostrate the power of Poland, and gained a victory at the foot of the Riesengebirge, at Liegnitz in Silesia (1243). All Europe trembled; but the barbarians, having received information of the death of their great Khan, instead of pursuing these advantages, returned to their native country, but they still maintained their dominion over Russia. The policy of Pope Innocent IV. and of King Louis IX. of France suggested the plan of directing the power of the great Mongol empire and its warlike army against the Mohammedan princes in western Asia, their implacable enemies; but this object did not seem practicable to the projectors of this plan, unless they could previously convert these barbarians to the Christian faith. For that purpose some friars were sent to the court of the great Khan; John di Plano Carpini in 1246, Father Ascelin, a Dominican, in 1248, and William Rubruquis, or Ruysbroeck, in 1254; and though they did not succeed in the main object of their mission, the information which they acquired of the countries through which they passed, made the Europeans for the first time acquainted with the immense extent of those regions formerly called by the vague name of Scythia, which from that time obtained the name of Mongolia, or Tartary. Carpini traversed a considerable part of the deserts to the south of the Altai range, and Ruysbroeck advanced even to the then metropolis of the Mongol empire—Karakorum, situated at the conflux of the Tula and Orghon, tributaries of the Selenga, to the south of the lake of Baikal. He gives a curious and very interesting description of that extraordinary town, which was surrounded like an oasis by extensive deserts. The Mongols, however, continued in their career of conquest in Asia, and at length subjected China to their sway (1275-1279) under the reign of Kublai Khan (1259-1294), the most able of all the successors of Ghengis.

At the court of this monarch the Venetian traveller Marco Polo resided from 1275 to 1292, and as he enjoyed the favour of the emperor in a very eminent degree, and was well acquainted with the most important languages spoken by the people of the country, he was frequently sent on missions to the remotest provinces of the Mongol empire, which were so distant from one another that he was often obliged to travel six months before he arrived at the place of his destination. After traversing, under such favourable circumstances, the Mongol empire in different directions, he was sent as ambassador to the islands of the Indian sea, and had thus an opportunity of becoming acquainted with this part of Asia also. On his return to Europe he passed through the strait of Malacca, remained, on account of the monsoons, five months in Sumatra, visited Ceylon and Malabar, and landed at Ormuz in the Persian Gulf. In all his missions and travels he had been in the habit of keeping a journal, and of entering what appeared to him most worthy of being recorded. On his return to Italy his incredulous countrymen importuned him by unceasing questions, and at length he resolved to make an extract from his journal of the most remarkable objects which he had seen or heard of. This he did in a book entitled 'Il Miglione di Messere Marco Polo, or in Latin, 'De magnis Mirabilibus Mundi;' one of the most curious and important works of modern literature, which has been translated into almost all European languages. It very materially influenced the views of Columbus, the discoverer of America, and directed the route of Vasco de Gama, who first went to India by the way of the Cape of Good Hope. The correctness of Marco Polo's information is better known and valued in proportion as we become more acquainted with the countries which he described. He has been frequently called the Herodotus of the middle ages, and he has a just claim to that title. If the name of a discoverer of Asia were to be assigned to any person, nobody would better deserve it, for he alone added to our geographical knowledge of Asia a much greater amount than what had previously been known by the ancients, together with what had been acquired by the travels of Carpini and Ruysbroeck. Besides the information which he gives us concerning Asia, he acquaints us with the eastern coasts of Africa and the island of Madagascar: the latter countries, as well as some parts of Asia, he had not personally visited; but even here his information has proved correct, and shows the care which he used in collecting his facts.

The chief subject of his description is the Mongol empire, which extended over more than one-half of Asia, including nearly all the countries of which the ancients had either no knowledge at all, or very scanty and confused information. To the north, his knowledge extended to the lake of Baikal, the Tunguse tribes, who had no cattle, except rein-deer (which tribes he calls Mekrit), and the adjacent sea (Mare Oceano); and he informs us of the connexion between the plains of eastern Europe on the Volga and Don, and those of Tartary and Mongolia. Further, he gives a description of China, in which Peking had become the residence of the Mongol emperors, and of Japan, called by him Zipangu, which name is evidently a corruption of the Japanese Dshi-pen-kue (the Empire of the Rise of the Sun). He had not visited Japan; but as his protector, the great Kublai Khan, had sent, in 1280 and 1281, some naval expeditions from Canfu and Zaitun, in the Chinese provinces of Chekiang and Fokien, to attempt the conquest of the Japanese islands, Marco Polo had a good opportunity of collecting information concerning them, though, as he says, they were 1500 miles from the Chinese coast. He visited the countries to the west of China, especially Tibet, where he got information of Mien, *i. e.* Pegu, and Bangala, Bengal, in Hindustan, a name never before known in Europe. Kublai Khan had sent, in 1272, an army to conquer these countries. Marco Polo is the first European, as far as we know, who navigated the seas to the east and south of the peninsula beyond the Ganges; and here he mentions the Spice Islands, 7448 in number, as he says, but he did not see them. They are situated, according to his account, in the sea of Cyn, and are mostly inhabited; but they have no commercial intercourse with foreign nations, except the merchants of Ma-Chin, or southern China, who visit them during the monsoons. He next gives some general information about the Sunda islands and the adjacent groups, which, according to his information obtained from navigators, consist of 12,700 islands, partly inhabited and partly uninhabited. All these countries and islands were almost entirely unknown before the publication of the travels of Marco Polo. But of the countries previously known to the ancients, the information he gave was likewise interesting, and has proved very useful. He treats of Ceylon, Malabar, and Ormuz, which he himself had visited; and of Aden, Socotora, Abascia (*i. e.* Abyssinia), Zanguebar, and Madagascar, which names were for the first time introduced by him into Europe: these countries had been indicated to him by Arabian navigators. His information concerning these seas served, two centuries later, to direct the course of Vasco de Gama in his first navigation to the shores of India. For he says, "Departing from the coast of Malabar, a vessel makes, by the assistance of a current, in three months, a thousand miles towards the south-west, and then arrives at Madagascar, and to the still more extensive islands farther to the west (*i. e.* Southern Africa), which are inhabited by black tribes with curly hair, rich in valuable productions, elephants, camelopards, gold, sandal-wood, amber, and frequently visited by merchants from Arabia and India."

After the time of Marco Polo the number of travellers in Asia increased; but none of them traversed any considerable part of it, and they generally tried to enliven their works by fables or inventions of their own, or by exaggerating the information which they had obtained from the natives. Of this description is the information given by the Armenian monk Hayton in his 'Historia Orientalis,' who collected it from the communication of his uncle, king Hayton I. of Armenia, who, having been present at the court of the great Khan Mangu Khan, had some opportunity of collecting geographical facts. The reports of the Venetian monk Oderico di Portenau (1317) are equally worthless, and the travels of the English knight John Mandeville (1358) are full of extravagances. Later, in the fifteenth century, we find some better information, especially through the Spanish ambassador Gonzalez Clavijo, who was sent in 1406 to the court of the famous Timur at Samarcand; and from the German adventurer John Schildberger, who served in the armies of Bajazet, the Turkish emperor, of Timur, and Shah Rokh, from 1400 till 1427: and especially the Venetian, Josaphat Barbaro, who travelled (1436—1471) in the countries east of the Mediterranean Sea, and carefully collected many remarkable facts. But all these travellers, though they brought back to Europe some useful information, added little or nothing to our knowledge of those parts which had previously not been known at all, or only very imperfectly. This, however, was effected in a very eminent degree by the discoveries of the Portuguese soon after they had found their way to India round the Cape of Good Hope.

III. *Progress of Geographical Knowledge of Asia after the Circumnavigation of Africa.*—The parts of Asia which had been visited by the Greeks were so far known, as to their boundaries, extent, and principal features, that they could be laid down with tolerable exactness. This will be evident to any person who examines Ptolemy's map of the extensive region included between the Mediterranean, the Caucasus, the Caspian Sea, the Belur Tagh, and the river Indus, though it is also clear that the vague information which this geographer had obtained respecting India betrayed him into very great errors as to that country. The information acquired by the travellers of the middle ages was much less exact. None of them had determined the astronomical position of any place; but as they, and especially Marco Polo, had noticed the immense extent of the countries which they had traversed, a very erroneous idea was formed of their true position on the globe. Thus we find that the German astronomer and geographer, Martin Behaim, who, in 1481 and 1485, accompanied the Portuguese navigator, Diogo Cam, in his voyage of discovery along the coasts of Guinea, and in 1492, made a terrestrial globe, in his native place, Nurnberg, has placed the Zipangu of Marco Polo, or the present Japan, at no great distance to the west of the islands of Cape Verde. A few years were sufficient to remove this error. But even later geographers, as Sim. Grynæus, Sebastian Münster, and others, in their 'Typus Cosmographicus Universalis,' *i. e.* in their maps of the old and new world, drawn up in the first quarter of the sixteenth century, laid down the same country at a short distance to the west of the Terra di Cuba and Parias, in America, which had been discovered a few years before. It was only by the discoveries of the Portuguese subsequent to the circumnavigation of the Cape of Good Hope, that these errors were corrected, and the true position and extent of these parts of eastern Asia were ascertained.

In 1498 Vasco de Gama arrived at Calicut, on the coast of Malabar, and the Portuguese pushed their discoveries in these seas with such activity and zeal that, in the course of less than half a century, they had explored them as far as Japan. Their first efforts to establish a commerce were directed to the coast of Malabar; and as the Arabs or Moors, who then carried on a very active trade with these countries, tried every means to exclude them from these parts, and to embroil them with the numerous sovereigns among whom this coast was divided, they were soon obliged to have recourse to arms, and to enter into alliance with some of the native powers. In a few years they had acquired a complete knowledge of the whole coast from Cape Comorin to the Bay of Cambay, and its rich emporiums, Surat and Broach; and, as early as 1509, they made several settlements on the southern coast of Guzerat as far as Diu, which then had a considerable commerce with Persia and Arabia, and they erected on this coast some fortresses. The following year Alfonso Albuquerque took from the Mohammedan monarch of Deccan the famous town of Goa, which soon became the centre of all the Portuguese dominions in India, and the seat of the viceroy and colonial government. The Portuguese now made advantageous treaties with the petty sovereigns along the whole coast of Malabar. But before this time the neighbouring island of Ceylon had been discovered by Almeida in 1506, which was at that time a place of the greatest commercial importance. Ceylon was then a station for the Arabian vessels which went to the Spice

Islands for the spices, which, together with the cinnamon that grows in Ceylon, they exported to the harbours in the Persian and Arabian Gulfs; from whence these commodities were forwarded to Europe. In 1517 the Portuguese erected the fortress of Colombo, in Ceylon, and began to exercise a dominion over its petty kings. To secure the monopoly of India they tried to exclude Arabian vessels from the Indian sea, and they succeeded in this attempt partly by the conquest of Ormuz at the entrance of the Persian Gulf, and by their superior naval force.

While the Portuguese were struggling to obtain the commerce of the Red Sea, they also extended their discoveries and conquests farther to the east. The town of Malacca soon attracted their attention. Malacca was then what Singapore at present begins to be, the resort of all the nations of eastern Asia and the Islands; its harbour was continually visited by vessels from Malabar, Bengal, Siam, China, the Philippine Islands, the Moluccas, and the Sunda Islands. Albuquerque took it in 1511, and the discoveries and the navigation of the Portuguese were speedily extended in all directions. Now, for the first time, the Portuguese entered the Gulf of Bengal, and became acquainted with the coasts and harbours of Coromandel, Orissa, and Bengal. John de Silveira in 1518 visited the town of Chittagong, from which the finest cotton manufactures, and also silk, ginger, indigo, and sugar were exported. The coasts of the peninsula beyond the Ganges were likewise explored, and some knowledge was obtained of the kingdoms of Aracan, Pegu, Ava, Siam, Camboja, and Cochin China. But the Portuguese directed their attention chiefly to the islands. From Sumatra, which was divided into upwards of twenty kingdoms, they obtained gold, tin, pepper, sandal wood, and camphor. They visited Java in 1513, and Borneo in 1523. The innumerable islands scattered over the Indian seas, which thus became known, led the Portuguese historian Barros to set them down as a separate great division of the globe, which he called by the significant name of Polynesia. The extreme boundary of the Portuguese discoveries was the large island which they called New Guinea, on account of the resemblance of the inhabitants, the Papuas, to the negroes of Guinea on the African coast. In this navigation the Portuguese successively became acquainted with Celebes, Sulu, Magindanao, Luzon or Manilla, and the Moluccas or Spice Islands, and they even visited the Liquejo, Liew-kiew, or Loo Choo Islands, which are described as rich in gold, and their vessels are said to have visited the harbour of Malacca.

In 1516 the Portuguese navigator, Ferdinand Perez, reached the coast of China in the Gulf of Canton, but the Portuguese were not permitted to enter the harbour and to trade there. They were consequently obliged to confine their commercial intercourse with this empire to a trade with the inhabitants of the island of Hainan, otherwise called Formosa, and the adjacent coast, till, in 1557, they found means to ingratiate themselves with the Chinese government by being materially instrumental in the destruction of a pirate, who for a long time had ravaged the shores and adjacent islands of southern China.[*] For this valuable assistance they obtained the island of Macao, where they soon made a settlement; and as on the change of dynasty in the seventeenth century they were so fortunate as to declare in favour of the party which in the end proved victorious against the then established government, the possession of Macao was confirmed to them.

While the Portuguese were still carrying on their coasting trade with China, one of their navigators, Ant. de Mota, was cast by a storm in 1542 on the coast of Nipon, one of the islands which compose the empire of Japan, the Zipangu of Marco Polo. The Portuguese were treated with great hospitality, and for some time carried on a very lucrative commerce. Japan was the most eastern limit of their discoveries, which gave Europeans a knowledge of the real extent of Asia, and made them acquainted with a great part of its coast. Had the Portuguese only been merchants, the advantages accruing from the commerce with such rich countries would probably have induced them to conceal their discoveries from the commercial nations of Europe; but they entered the Indian seas as conquerors also, and their historians (Barros, Couto, Ed. Barbessa, the companion of Magalhaens, Faria y Sousa, and others) found in their heroic enterprises a subject for national exultation.

The Portuguese had exhausted their strength in forming settlements both in the Old and New World. The spirit of the first conquerors no longer animated the nation, and the tyranny and intolerance of the Portuguese made them hated in their colonies. At the close of the sixteenth century Portugal fell under the yoke of Spain; and one result of the struggle of the Netherlands against the power of Philip II. was the gradual transfer of the Portuguese possessions in the East to the hands of the Hollanders, their successful rivals on the sea. The Portuguese were expelled from Japan (1639) and the Moluccas; they lost Malacca (1641) and Ceylon (1656), with their settlements on the Coromandel and Malabar coasts; and they remained, at the conclusion of peace (1663), only in the possession of Goa and Diu, which they have kept to the present day. The Hollanders, though they extended their settlements during the century that they possessed the dominion of the Indian seas, acted more on mercantile principles, and did not materially increase our geographical knowledge of the countries in which they established themselves. They published, indeed, a few descriptions of some of their colonies, and of their natural productions, especially of the plants and shells (Rumphius, 'Amboinische Raritätenkammer;' Rheede, 'Hortus Malabaricus;' Fr. Valentyn's 'Beschreibungen,' &c.); but these works were generally defective in geographical information. The most important communication belonging to this period was furnished by the German naturalist, E. Kampfer, who, in the capacity of Dutch physician, resided in Japan from 1684 to 1692, and has given a good description of that country.

During the long-protracted contest between the Portuguese and Dutch in the seas of India, the most northern part of Asia which had not been known either to the ancients or moderns, suddenly emerged from the obscurity in which it had hitherto been involved. The sovereigns of Russia, who for more than two centuries had been dependent on the Tartarian princes of the family of Ghengis-Khan, obtained the full sovereignty of their country in 1461, and in the following century they extended their dominion, and with it our geographical knowledge, over the countries drained by the Don, Volga, and Ural, up to the Ural mountains, by the conquest of Kasan (1552) and Astrakhan (1555). In 1578 a chief or hetman of the Cosacks, Yermak Timofeyekf, who was in fear of punishment for having robbed some travellers, crossed the Ural range with a troop of his countrymen, and entered Siberia. The discovery of Siberia, and its subjection to the Russian sway, were pursued with such vigour, that in 1644 the mouth of the Amur was reached, and in 1648 the bold hetman Deshnef, favoured by a mild season, circumnavigated the most north-east corner of Asia, from the mouth of the Kowyma round the north-east cape to the mouth of the Anadyr, and thus proved that Asia was actually separated by an open sea from America. This fact, however, remained for a length of time problematical; the Russian navigator Behring (1725—1728), as well as Captain Cook (1778), found their way impeded by enormous fields of ice. In 1820—1824 the Russian captain Wrangel again succeeded in effecting this voyage. The discovery and conquest of Siberia were completed by Peter the Great, who took possession of Kamtchatka in 1696.

Somewhat later, and still more unexpectedly, Europeans obtained a complete geographical view of the immense empire of China, and of a considerable part of central Asia. This was not due to conquest, nor to the activity and industry of travellers. The Jesuits had tried to convert the inhabitants of Japan to Christianity, and they had met with more success there than in any other country of Asia. But a persecution breaking out against them and their proselytes, from political reasons, the friars were compelled to leave the country, and they directed their labours to China. Father Matteo Ricci, an Italian, a man of considerable attainments in astronomy and mathematics, soon acquired great influence at the court of Peking (about 1600). One of his successors in the mission, Father Schall, was appointed chief of the bureau of *Heavenly Affairs*, and he maintained himself in this place even after a revolution had taken place (1644), and the dynasty of the Mantshu emperors had ascended the throne. The Jesuits continued in favour to the middle of the last century (1759). During this time some of them had an opportunity of traversing various parts of the Chinese empire, and the countries of central Asia. Thus Father Ben. Goes travelled (1607) from India through Kashghar, Yarkand, and the desert of Gobi, to the great wall of China, and ascertained that *Katai* was northern China, and *Khambalu* the town of Peking, which till then had been considered as different countries and towns. Other Jesuits succeeded in insinuating themselves so far into the favour of the great emperor Kanghi, that some of them always accompanied him in his expeditions and travels, or were sent on certain missions. By these means they acquired a considerable knowledge of China and of the countries dependent on it, as Mantshuria, Corea, and even of the great desert called Gobi, as well as of the manners, character, and institutions of the inhabitants of those countries. The observations of the Jesuits were published. But the greatest service which they rendered to geography was their map of China, which was made under the authority and at the expense of the Chinese government, by the friars Bouvet, Regis, and Jartoux, between 1708 and 1718; and after having been corrected by the friars Felix d'Arocha, Espinha, Hallerstein, and Gaubil, was published at Peking, by the authority of the emperor Kienlong, in 1760, in 101 sheets. The great imperial geography, entitled *Taythsing y-thoung-tchi*, written by the order of the emperor Kienlong, may be considered as a commentary on this map. The second edition (1790) of this extensive work has been enlarged to 480 books, and we are indebted for our knowledge of it to the industry of some Chinese scholars, especially Sir George Staunton, Davis, Morrison, Abel Rémusat, the Archimandrite Hyacinth, and Klaproth. Modern travellers, especially the Dutch (J. Neuhof, 1755, and Van Braam, 1794), and the English (Lord Macartney, with Sir George Staunton and J. C. Huttner, 1792, and Lord Amherst, with Ellis, Abel, and Maxwell, 1816), added something to the then existing stock of knowledge; but the information which they have obtained extends only over a comparatively small extent of country. The voyage of Captain Maxwell, however, has materially improved our knowledge of the coast of the bay of Petcheli, and the peninsula of Corea, a coast which previously had not been examined with any degree of accuracy.

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[*] See a more full account of this matter in 'China,' p. 136.

While the conquests of the Russians in Siberia, and the operations of the Chinese government, opened to us the northern and eastern countries of Asia, our progress in acquiring a geographical knowledge of the southern and western countries was comparatively slow. The fanatical policy of the Turks, who, at the end of the fifteenth and the beginning of the sixteenth century, had got possession of them, shut up the roads through Asia Minor and the adjacent countries, which were only visited by a few pilgrims. The policy of Persia, however, under the dynasty of the Sofides (from 1501—1722), was much more favourable to European travellers, many of whom got access to every part of the country, and even to the court, and collected very valuable information concerning the geography of Persia, the institutions, and the character and manners of its inhabitants. Such information is contained in the travels of Pietro della Valle (1614—1626), Adam Olearius and Albrecht von Mandelsloh (1633—1639), John Thevenot (1652), John Baptist Tavernier (1665), and especially in those of John Chardin, the court jeweller of the king of Persia and of Charles II. of England, who discovered the ruins of Persepolis; and of Francis Bernier, the physician of the emperor Aurung-Zeb, who first gave some information on the valley of Cashmere. Gasparo Balbi, a Venetian jeweller, made a journey to India (1579—1588), by the route of Aleppo, Bir, the Euphrates as far as Felugia, and Bagdad. Rauwolf, in 1574, also descended the Euphrates from Bir.

Towards the end of the seventeenth century the suspicious policy of the Turks began gradually to relax; and the first fruits of European zeal to explore the countries subject to their sway was the discovery of the ruins of Palmyra by Halifax in 1691, and the travels of another Englishman, Henry Maundrell, to Jerusalem in 1697. They were soon followed by the naturalist J. Piton de Tournefort, who explored Asia Minor, Armenia, and Persia (1701), L. Lucas the antiquarian, and the Dutch painter Corn. de Bruyn, who visited Syria and Palestine; and, somewhat later, by Richard Pococke (1727), and Carsten Niebuhr (1766). In our times, these countries have been visited by Volney (1796), Seetzen (1802—1817), Clarke, Turner, Buckingham, and others. Arabia, which formerly had not attracted the attention of Europeans, and was only known from the description of Abulfeda, was pretty well explored in part of its extent by C. Niebuhr (1761—1767), and its geography, ethnography, and natural history have been considerably enriched in our times by Seetzen, Burckhardt and others.

The geography of India, that country which, since it first became known, had always most excited the curiosity of the learned, and attracted the speculations of the merchant, was longer involved in obscurity than almost any part of Asia. Up to the middle of the last century the coasts were very imperfectly determined, and very little indeed was known of the interior of the country itself. A few travellers, as Thevenot, Tavernier, and Bernier, had given some information about a few districts and routes, but it was extremely scanty. The true geographical knowledge of these countries began in the Deccan with the wars of the East India Company and the French (about 1710), and in Hindustan with the conquest of Bengal (1757). From this time its progress was extremely rapid. A great part of the valley of the Ganges was soon explored and surveyed, and an account of the remainder, and of other districts of Hindustan, was obtained by the translation of the Ayin-i-Akbari, an historical and statistical account of the Mogul empire, composed by Abul Fazl, under the orders of the emperor Akbar. The military expeditions against Hyder Ali and his son Tippoo Saib, rajas of Mysore, gave that exact information about the southern parts of Deccan which is always the effect of such operations. In the wars with the Pindarries and with the Mahrattas (1801—1818), the northern districts of Deccan and the central region of Hindustan were explored in a similar manner. In the wars with the then French government, the colonies of the French and Dutch (Pondicherry, 1793, Ceylon, 1796, Java, 1811) fell into the hands of the English, and a full account of them, especially of the island of Java, then almost unknown, was published by the late Sir Stamford Raffles. The novelty of the scenes opened by these successive conquests induced many scientific men and exact observers to explore these countries, and to them we are indebted for a number of valuable works. The most important are, Forbes's 'Memoirs on Malabar;' Sir Francis Hamilton's (Buchanan's) 'Travels through Mysore;' B. Heyne's and M. Wilkes's 'Researches on Deccan;' Lechenault's 'Botanical Excursions through Deccan' (1816); Lord Valentia's 'Travels' (1802—1806); Bishop Heber's 'Travels' (1824—1826); Malcolm's 'Researches on Malwa' (1820); Tod's 'Rajasthan;' A. Burnes's 'Topographical Researches on Cutch,' &c.; and his 'Examination of the Indus and the Penj-ab.' An account of the island of Ceylon is found in the works of Perceval (1796), and of J. Davy (1816—1820); and Sumatra was described by Marsden. Many separate memoirs, either inserted in the Transactions of the Asiatic Societies of Calcutta and London, or published separately, have illustrated the geography, geology, natural history, or antiquities of some *separate district or place. It may be truly said that India, which little more than fifty years ago was less known than almost any other country of equal extent, has since that time* been so well explored by the industry of our countrymen, that there are few countries out of Europe on which we have better information.

The extensive conquests of the English on the banks of the Ganges and its tributaries involved them at last in political relations, and in a war with the tribes of mountaineers who inhabit the Himalaya range, especially with the Ghorkas in Nepaul; and this led to the conquest, in 1816, of some of the elevated valleys of these gigantic mountains, which hitherto had remained entirely concealed from the admirers of nature. Their exploration soon became the object of the concentrated zeal of some of our most scientific countrymen. The great height of their pinnacles was determined, and their character explored by Raper, Webb, Hodgson, Crawford, and others. Penetrating through these valleys, Moorcroft (1812) succeeded in entering the high table-land of Tibet, where his progress was impeded by the jealous policy of the Chinese; he afterwards reached Leh in Ladakh (1820—1825), and then passed through the valley of Cashmere, which, since the time of Bernier, had only been visited by G. Forster (1783). Before his time, Tibet had been visited by Turner, who was sent on a mission to the Teshoo Lama, the high priest of the Buddhists, and on his way traversed the valleys of Bootan.

The political relations, which the East India Company were obliged to enter into with the countries lying on both banks of the Indus, gave rise to the embassy of Mountstuart Elphinstone to the court of Cabul (1809), by whom the whole region known by the name of Afghanistan, which till then had remained almost entirely unexplored, was at once opened to us. A similar effect was produced by Grant's embassy to the court of Sind (1809). After that time, Christie and Pottinger traversed Beluchistan, and those regions which anciently were known by the name of Gedrosia and Ariana, and had probably not been visited by any European since the expedition of Alexander the Great: in these journeys they discovered the table-land of Kelat (1810), and the roads which lead thence to Kerman and Herat. The journey of Burnes from the Indus to the countries on the Oxus river made some important additions to our knowledge of these hitherto almost unknown regions; and still more recently the visit of Lieutenant Wood to the lake, which is the source of the Oxus, has confirmed Pliny's account of that river rising in a lake, and furnished new evidence of the accuracy of Marco Polo's descriptions.

Our knowledge of Persia has likewise received very important additions in modern times, especially from the industry of the English. This also has been a consequence of political relations. Sir John Malcolm, the author of the classical history of Persia, and Sir Harford Jones, were sent to the court of Teheran, which they prevailed upon to place the organization of the Persian army in their hands, and to permit them to examine the Persian provinces with reference to their capabilities for defence. The result of these geographical researches was an improved map of Persia, and a list of routes through its provinces, published by Macdonald Kinneir in his 'Geographical Memoir' (1813), who, in his travels (1813–14), examined also the roads leading through Kurdistan, Armenia, and Asia Minor. This information was greatly increased by J. Morier's travels, the labours of Ouseley in oriental geography and literature, by Ker Porter's and Rich's researches on Persian antiquities and architecture, and B. Fraser's travels, who in 1821 advanced to Mushed in Khorassan: Fraser first determined the height of the table-land of Iran, and corrected, by his observations, the southern shores of the Caspian Sea. The recent expedition to the Euphrates under the command of Colonel Chesney has made great additions to our knowledge of the Euphrates and Tigris, and the countries adjoining the banks of these rivers. Various parts of Asia Minor, Syria, and Armenia have also been recently explored, and many valuable communications respecting these countries have appeared in the Journal of the Geographical Society of London.

Of India beyond the Ganges nothing was known at the close of the last century except the coasts and a few ports; but the increasing power of the Burman empire soon produced political relations between it and the government of Calcutta, which in 1795 sent an ambassador, Col. Symes, to the court of Amarapura, accompanied by the naturalist Sir Francis Hamilton (Buchanan), from whom we have the first authentic account of that country. The war with the Burmese, which took place in 1824-26, made us acquainted with the valley of the Irawaddy, up to the capital of the Burman empire; and the ceded provinces (Aracan, Martaban, &c.), as well as the countries which were declared independent by the peace (Asam, Cashar, Munipore, &c.), began soon to be explored. During the negotiations for peace, Crawford was sent to Amarapura; and he subsequently published an account of the Burman empire, by which he cleared up the geography of the peninsula beyond the Ganges as much as he had previously done by his account of Siam and Cochin China. This work and his history of the Indian archipelago have considerably enlarged our views concerning the least-known portion of India.

Next to the English the Russians have been most active in extending and completing our geographical knowledge of Asia. The establishment of mines in Da-uria on the Amur, and in the Altai mountains between the Irtish and Oby, led to the publication of several interesting travels. The most valuable works on the geography of Siberia are by Messerschmidt (1720), Dr. Muller, De Lisle de la Croyère, Gmelin, father and son, Falk, Pallas (1720), Georgi, Sivers (1791), and, in our times, Von Ledebour (1826), Dr. Meyer, Von Bunge, Hess, A. Erman, and Alexander von Humboldt (1829). The periodical missions to the court of Peking have added some information concerning the table-land which extends between Siberia and China, especially the travels of Timkowski (1819-21) and those of Von Bunge (1830), who first ascertained the elevation of the central table-land which he crossed in this journey.

The conquests of the Russians in Asia have given us a more complete knowledge of the Caucasus. Peter I. ordered a survey of the Caspian Sea to be made, which was executed by Simonof, and thus the true extent and form of that immense lake were first known. In the war against Persia in 1721-23, the northern ridges of Mount Caucasus and the countries watered by the Kur and Aras were explored; and discoveries were pushed farther south in 1800, when the province of Grusia fell under the sway of the Russians. The valleys of the Caucasus were visited and explored by Guldenstadt, Reineggs, Von Biberstein, Klaproth (1807), Parrot, and M. von Engelhardt (1815), Kupfer, and M. Lenz (1829), who at last succeeded in reaching the elevated pinnacle of the Elburz; Parrot had previously ascended the Ararat.

The Russians have likewise penetrated into the countries east of the Caspian Sea, and surrounding the lake of Aral, by passing through the deserts inhabited by the Khirghis Karaks. This was chiefly effected by the missions and embassies of Nazarof to Khokhand (1813), of Murawieff to Khiwa (1819), of Meyendorf and Eversmann to Bokhara (1820), and of Von Berg, Lewchini, &c., to the Lake of Aral.

IV. *General view of the extent and figure of Asia.*—Asia lies to the east of Europe and Africa. It is separated from Africa by seas, except at one place, where these two great divisions of the globe are joined by the narrow isthmus of Suez, lying between the Mediterranean and the northern extremity of the Red Sea. It is connected with Europe by extensive tracts under the meridian of the Ural, which mountain range, together with the low and desert plains that extend along the lower course of the Volga and the northern extremity of the Caspian Sea, ought to be considered as the natural boundary between Europe and Asia.

In the political changes, to which the nomadic tribes in the interior of Asia were frequently subject, some of them were driven through that immense gate, which opens between the Ural range and the Caucasus, towards the eastern parts of Europe, countries richly endowed by nature with a soil fit for agriculture; and in this way a continual migration was effected.

The area of Asia is more than five times that of Europe; and it differs materially in figure from Europe and Africa. Africa is like a body without members, but Asia extends its limbs in three directions, preserving at the same time a preponderant mass of body. Europe, on the contrary, which may be considered as an appendage or continuation of Asia, exhibits a preponderance in its numerous limbs over the mass of the body.

The great mass of Asia may be compared to a four-sided figure, whose four unequal angles are placed respectively on the isthmus of Suez, the innermost angle of the Gulf of Tonkin, Cape Shalatzkoi in Siberia, and on the peninsula adjacent to the Gulf of Cara, east of Nova Zembla. It consequently extends to the south of the Tropic of Cancer, and in some parts it stretches north of the Arctic Circle. The northern side of this figure, lying within and parallel to the Polar Circle, is the shortest, extending only about 2700 miles; that near the Tropic, which is the longest, measures upward of 5000 miles. Four-fifths of the whole area of Asia, or about fourteen millions of square miles, are comprehended in this figure; the whole of its surface amounts to about seventeen millions and a half of square miles.

From this extensive continental mass, which may be considered as the body of Asia, its members project on the east, south, and west, in the form of peninsulas and headlands. The peninsula of the Tshuktshes juts out towards America (with an area of 64,000 square miles); that of Kamtchatka contains 56,000 square miles; that of Corea is of equal extent; the curved arc of the coasts of China forms a kind of peninsula; and three extensive peninsulas stretch out into the seas of India and Arabia,—the peninsula beyond the Ganges occupying 777,000 square miles, India within the Ganges comprehending upwards of a million of square miles, and Arabia about an equal extent: the three last, taken together, have an area nearly equal to Europe. The peninsula of Anatolia, or Asia Minor, like a bridge leading to Europe, has served to facilitate the passage of nations and of civilization. The northern coast alone, though much more indented than any part of the coast of Africa, does not exhibit peninsulas of great dimensions. These members, which may be considered as detached from the main body of the continent, contain nearly three millions and a half of square miles.

It may be observed that the extensive tract of land which occupies the centre of the continent, and is beyond the reach of any of the seas enclosing Asia, is far superior in extent to the members which surround it: this tract forms what may be called *Central Asia*, and it has remained in a state of unchanged uniformity in manners and civilization, whilst its appendages, which lie round it, have undergone numerous revolutions, and have made great progress in the arts of civilization.

If we consider—and we think we ought to do so—the islands which lie near a continent as its insulated members, no part of the globe equals the southern part of Asia in the luxuriancy of this formation. Here lies the group of the Sundas with its thousand islands and islets, the most extensive archipelago on the globe, which forms an easy passage to the continent of Australia, and to the Pacific Ocean and its numerous groups of islands. Thus Asia exhibits the greatest contrasts on the surface of the globe. Its interior presents to our view the most extensive, uninterrupted solid mass of land; and its southern extremity is more split into separate members, and varies more in rapid succession of land and sea, than any other part of the globe of equal extent.

Asia, exhibiting such characteristics in its outline, is no less remarkable for the form of its surface, on which the climate, and consequently the vegetation and animal kingdom of its different parts must chiefly depend. In examining the other divisions of the globe, we find that Australia exhibits level and comparatively low countries without many high mountain-ranges, as far as we yet know. Africa is divided into two nearly equal parts, the southern of which forms an almost uniform table-land, whilst the northern, with the exception of the Atlas region, may be considered as a lowland. Europe contains plains of small extent lying between dispersed mountain-groups and ridges; but these plains are not confined to any particular parts. In America the highest land lies on one side, occupying its western coast from the extreme north to the south: it forms the most extensive system of mountain-chains on the globe, which enclose within their arms elevated plateaus, but of comparatively small extent. Asia exhibits different features. The whole mass of the interior continent rises to a considerable elevation above the sea, and this elevated mass, of which the high table-lands occupy by far the greatest extent, is not placed at one of the extremities of the whole mass, but occupies its centre.

From these table-lands, which occupy the centre of Asia, the surface descends in gradual and diversified terraces and slopes to the lowlands which surround them. The table-lands themselves are traversed by numerous mountain-chains, and are enclosed by high ranges; but though these mountains are among the highest and most extensive on the globe, they occupy, when compared with the table-lands, a comparatively small surface. Their influence on climate and organic nature cannot therefore be equal to that which the table-lands themselves exercise, and consequently their relation to these latter is only subordinate. This observation applies even to the colossal range of the Himalaya, which forms the southern boundary of the extensive systems of table-lands that occupy central Asia.

The table-lands, in the interior of the continent, form two separate systems different both in extent and in elevation: they are, as it were, two terraces, a higher and a lower one. The Eastern system of these table-lands comprehends the plateau of Tibet and that of the great desert called Gobi, and the countries lying between them; it rises from 4000 to 10,000 feet, and in some parts still more, above the sea. The Western system, containing the plateau of Iran (Persia), does not generally attain the height of 1000 feet. The latter may occupy an area of about 1,700,000 square miles; the former, which is more than thrice as large in extent, contains about 7,600,000 square miles, and both taken together more than two-fifths of all Asia; the remainder of the continent is occupied partly by the terraces, by the intervention of which the table-lands sink gradually towards the lowlands, and partly by the lowlands themselves. The length of both systems of table-lands taken together and measured from west to east, from the Black Sea and the Persian Gulf to the sea adjacent to the coasts of Corea, is upwards of 5500 miles. Its breadth from south to north varies considerably: it occupies in its greatest extent on the east, between its southern boundary in the Chinese province of Yunnan and the northern in the country of the Mantshu Tunguses, from 1500 to 2000 miles; but on the west, between the coasts of Carmania and Gedrosia in Beloochistan, and the steep slopes to the lowlands of Bucharia, the breadth is less than 700 miles.

The boundary of these plateau regions is marked by the mountain-ranges of Taurus and Caucasus at the north-western extremity, and by Mount Elburz at its slope towards the Caspian Sea; it afterwards advances farther north in the Altai range in Siberia, and on the north-eastern extremity it is bounded by the alpine region of Da-uria. On the east the boundary is indicated by the mountain-ranges in western China, which have no common name, but extend from the western extremity of the Great Wall to the Snow Mountains (Siuete Shan) in Kuang-si and Yunnan northward, to the innermost angle of the Gulf of Tonkin. The southern boundary is formed by the Himalaya range and its branches, extending eastward and westward, the latter of which are known by the name of Hindu-Coosh or Hindu-Kuh. Farther to the west, where the plateau of Iran projects towards the south, the region of the table-land is separated from the Indian Sea by the mountains of Beluchistan, and thence from the Gulf of Persia by the steep Persian mountain-range, which extends along the coast of the gulf, and bounds the valley of the Tigris on the east: it afterwards joins the chains of Taurus and Amanus, where the Tigris and the Euphrates issue from the mountains. Here the boundary between the lowlands of Mesopotamia and the table-land is very distinctly marked; and from this point the range proceeds westward, under the name of Mount Taurus, and fills, together with the table-lands enclosed between its arms, the greater part of the peninsula of Anatolia.

Both systems of table-lands are so connected, that, properly speaking, they form only one elevated and continuous protuberance on the surface of the earth, but they decrease considerably in breadth where they join one another; and exactly at this point of junction numerous high masses rise and form an extensive mountain-knot, where the ranges of the Himalaya, Hindu-Kuh, Thsungling, and Belur-Tagh, meet one another. Thus these table-lands are, at the same time, joined and separated in a very characteristic manner.

From the extremity of these table-lands, especially on the south-east and north-east, south-west and north-west, there issue several separate mountain-chains, not connected with one another, but which form more or less a part of the table-lands themselves. Owing to this peculiarity, the highland of Central Asia, as far as regards its surface and its extremities, appears no less indented and cut into several divisions and members than the whole continent of Asia in its shores and in its exterior figure. The valleys, which are produced by this indentation on the borders of the table-lands, offer peculiar advantages for the progress of civilization. For, as we have already observed, the highland of Asia does not sink on one side only, but on all sides and towards every point of the compass; it also sinks towards different oceans, which are separated from the highland by extensive plains, varying greatly in magnitude and form. This circumstance, added to the valleys formed by the indentations in the exterior margins of the highlands, has given rise to numerous and most extensive river-systems, which, descending through the intervening terraces, direct their winding course towards the north, south, west, and east, and thus give to the distant internal countries of this continent the advantage of an easy communication with the ocean.

The Eastern Highland of Asia is divided from the Western, or, more accurately, the table-land of western Tibet is divided from that of eastern Iran, between the meridians of Balkh and Cabul, by a tract of a peculiar nature. The Eastern Highland, being much larger in extent and of higher elevation, presents more rigid forms, and has the figure of an irregular trapezium; the Western has the form of a rectangle extending towards the north-west, and is in every respect of a milder character. The mountain-knot formed at the common junction of the several mountain-ranges, which the companions of Alexander called the Indian Caucasus, and which now bears the name of Hindu-Coosh, is an extensive Alpine region, or rather a mountain-isthmus, extending between the lowlands of Bucharia and of India, and uniting both highlands.

To this peculiarity of form in this part of Asia we must add another, namely, the parallelism observable in the direction of the mountain-ranges which form the southern border of the highlands, or, in other words, their southern slopes. They extend in a diagonal direction from E.S.E. to W.N.W. The Himalaya range, which forms the slope of the table-land of Tibet, and extends from the Gulf of Tonkin to Cabulistan, a distance of nearly 2800 miles, is parallel to the Taurus range, which, bordering the table-land of Iran on the south, extends from the mouths of the Indus to the western extremity of the Taurus in Asia Minor, and is nearly of equal length.

This southern chain of the Taurus system is also parallel to the mountain range which bounds the Highland of Iran on the north, and which, considered as a continuation of the mountain-region of the Hindu-Coosh, is traced to the Demavend and Elburz near the southern shores of the Caspian Sea, and thence through Azerbijan and Armenia, though its surface exhibits great varieties in this part of its course. It terminates with Olympus and the heights of Ida on the shores of the Dardanelles, and presents towards the Black Sea rapid slopes. This northern chain of the Taurus system is nearly equal in length to the southern, extending upwards of 2500 miles. The Caucasus itself, which extends about 680 miles on the isthmus which separates the Caspian from the Black Sea, though it is some distance farther to the north, has nearly the same general direction.

But this parallelism, so remarkable in the Western Highland, is not observed in the Eastern. Here too, indeed, some of the mountain-ranges which traverse the table-lands run in the direction of west and east; but this is not the case with the principal chains, the Kuen-luen (35° 30′ N. lat.), the Thian-shan (42° N. lat.), and the Altai mountains, farther to the north. In these mountain ranges a decided divergency is observable. The distance between them widens as they proceed eastward till the most southern of their members, formed by the mountains of India beyond the Ganges, terminates on the peninsula of Malacca, opposite the Sunda islands; and the most northern, the Baikal and Da-urian range, which traverses the countries on the Gulf of Okhotzk and the peninsula of the Tshuktshes, approaches the most northern shores of North America.

This diversity in the form of the surface of Eastern and Western Asia has had corresponding effects on the civilization of the inhabitants. The divergency of the mountain-ranges in the eastern regions placed the nations inhabiting them at greater distances, whilst the convergency in the centre and in the western region produced a nearer approximation and more easy communication. But, after all, the great features of its surface, which determine its capabilities of influencing organic nature and the history of men, exhibit a marked direction east and west.

To form a complete picture of the varieties in the surface of Asia, we must add to these mountain-ranges, which extend in a diagonal direction, others which meet them nearly at right angles. Such are the Belur-Tagh, or Beloro, which is ascended in passing from the deep steppes of Bucharia eastward to the high table-land of Turkistan, and the towns of Kashghar and Yarkand; and the Soliman range, on the eastern border of Iran, which must be traversed in passing from the lowlands of India to the table-land of Persia. These mountain-chains complete the characteristic features of the surface of Asia.

We have remarked that the two great systems of high table-land are connected by an Alpine region which extends between the far advancing angles of two lowlands; that of India from the south, and that of Bucharia from the north, which seem to tend to meet one another, but are interrupted by the high summits of the mountain-region. Such a juxta-position of all the great features which nature exhibits on the surface of the globe, on such a colossal scale, and in so limited a space, makes this one of the most remarkable spots on the face of our planet. This maximum of the contrasts of natural features, placed in the centre of the continent, is the principal characteristic which distinguishes Asia. By drawing a circle with a radius of a few hundred miles round this common centre, we comprehend in it the countries of Cashmere, Sogdiana, and Cabulistan, the ancient empires of Bactria, Delhi, and Samarcand, the cold table-lands of Tibet, of Khotan, and of Kashghar, up to the ancient Seres and Paropamisadæ; the most elevated snow-topped summits on the globe, the richest and most diversified Alpine regions and valleys, the sources of the greatest and, in an historical point of view, the most remarkable rivers of central Asia, the Penj-ab of the Indians on the south, the famous Mawar-al-nahr on the north, and the richest plains in these lowlands; we have Persia on the west, India on the east, Bucharia, Turkistan, and Tibet, on the north. It is the centre of Asia fixed by nature; one of the great physical influences which prompted man to progress and to civilization in the early ages of his history. How numerous and powerful must be the inducements to change in a country where the climates of the polar region come nearly in contact with those of tropical countries intermingled with the temperate zone; and where this diversity of climate is found within a space so limited, and yet diversified by hundreds of different slopes, terraces, and valleys, which, partly watered by rivers and torrents, and partly entirely without running water, are placed near one another, but rise to very different levels above the sea. What an influence must such a country exercise on organic nature, and on the civilization and history of man; and how powerful must this influence have been through all the generations that the human race has existed!

To these two great and characteristic features, namely, the splitting of the south-eastern part of the continent into peninsulas and innumerable islands, and the great contrasts exhibited in the form of the surface in the centre, we must add a third, which is peculiar to Western Asia. This characteristic feature is partly its external form, and partly its geographical position in the centre of the ancient world. As Asia is here connected with Europe and Africa, the three great divisions of the globe are thus brought into contact, and the intercourse thus established between the different nations that inhabit them, is still more facilitated by the great maritime roads which nature has placed in this centre of the ancient world—the Gulfs of Arabia and Persia, the Caspian Sea, the Black Sea, and the sea which extends between Egypt and the peninsula of Asia Minor. This part of Asia is not characterized like the south-east by being split into manifold divisions and members, by which the phenomena of nature are multiplied and diversified, and the intercourse of nations and their progress in civilization facilitated; nor does it exhibit great contrasts in the form of its surface: but we find here, in the western regions of Asia, more than at any other place, extensive countries surrounded and penetrated by considerable branches of the sea—a characteristic which is rendered more important by occurring in a place where the east and the west approach one another.

Such are the great features which characterize the external form and the interior surface of Asia. We shall attempt to indicate the peculiar character of each of these great natural divisions.

First of the Eastern Highland, or system of table-lands. The axis of its elevation, or its highest part, lies in a direction from south-west to north-east, and begins between Cashmere, Badakshan, and the Thsungling, on one side, and the Kailas mountains, and the sacred lakes of Manassarowara and Hrawanhrad in Tibet, on the other, east of the sources of the Ganges; it extends to the snow-covered heights of Mount In-shan, situated at the most northern bend of the Hoangho river, and thence it traverses the Khing-khan mountains east of the lake of Baikal, which form the southern and south-eastern border of the great desert of Gobi, to the most northern bend of the river Amur, which seems to be caused by the north-eastern extremity of the axis. On this most elevated part of the Eastern Highland the table-lands of Great and Little Tibet probably rise to the height of from 10,000 to 14,000 feet above the level of the sea (those of Little Tibet measured on the banks of the Upper Satadru or Setledge); and perhaps the elevation of the desert of the Gobi, about the lake of Khu-khu-nor, or Koko-nor, is not much less. Farther to the north-east, the great caravan-road, which traverses the desert of Gobi between Kiachta and Peking, the table-lands sink considerably, and attain only the height of from 3000 to 4000 feet. This axis of the highland, which is inhabited by Tibetan and Mongol tribes, is not parallel to the separate mountain-chains which traverse the irregular trapezium of the highland from west to east, but cuts them in a diagonal direction. That part of the highland which is situated to the south-east of the axis seems to contain some very high table-lands; but the greater part of it is probably occupied by high mountain-ranges, which descend towards the adjacent low-countries with a rapid and steep declivity, and by themselves constitute the most extensive mountain-region of the globe. This Alpine region, however, if we except a small part of the Himalaya range, is almost entirely unknown to Europeans.

To the north and north-west of the axis extends the greater of the two triangles which compose the trapezium of the Eastern Highland of Asia. It sinks gradually towards the lakes of Baikal, Zaizang, and Aral, forming a series of terraces which continually exhibit less of the characteristic features of the table-lands, till they terminate with the steppes round the lake of Aral. These steppes, therefore, do not form a part of the highland, but of the low plains which surround the Caspian Sea and the lake of Aral. At present only the elevation of the large lakes which lie on the northern borders of the lowest terraces, and in their most depressed cavities, has been determined with any degree of exactness. The lake of Zaizang is upwards of 1600 feet above the level of the sea, according to the measurement of Ledebour and Humboldt; the lake of Baikal nearly 1800 feet, according to Erman; and Kiachta, the great commercial town between Siberia and China, situated on a second and higher terrace, is 2530 feet above the sea, according to the barometrical measurement of Erman. During the latest Russian mission to China, a series of heights was ascertained across the Gobi by Bunge and Dr. Fuss, from Kiachta to Peking; and it was found, that the pass leading over the mountain-chain of the Dshir-galantu, lying south of the Chinese provincial capital Urga, and on the south of the river Tola, is only 5005 feet above the sea; and that on the southern border of the Gobi, not far north of Peking, the highest mountain-passes which are crossed by the great Chinese wall are only 5525 feet above the sea-level.

Between Urga and the great wall extends the desert called the Gobi. It is not a level plain, but sinks towards the middle, where it is about 3000 and in some places only 2600 feet above the sea, and forms a long extended flat valley, lying from west to east. The lowest part of this valley is occupied by the proper Gobi, called also Shamo (i. e., sea of sand); its surface is covered with sand, and abounds in salt. In all its extent it displays the traces and phenomena of having once been covered by the sea, and among the Mongols a notion still exists that it will again be filled with water.

Farther to the west, towards the Gobi of Hami, called Han-hai, or the Dry Sea, the table-land probably rises again, but still farther to the west it appears to be furrowed longitudinally from west to east by a wide and extensive depression of the surface. We are induced to make such a conjecture by the course of the large river which traverses Kashghar and Yarkand, and running eastward terminates in the lake Lop, which probably occupies the lowest part of the valley. The culture of cotton and the vine in Chinese Turkistan, along the tract indicated, together with its numerous commercial towns (Kashghar, Yarkand, Aksu, Kutsche, Karashar, Turfan, Hami), which are traversed by the great road leading over Central Asia to China, render it very probable, that this valley is not much elevated above the level of the sea, and that the countries in this direction offer no great obstacles to travelling. This valley is bound by two high mountain-chains, running west and east, of which that to the north is called the Thian-Shan (Bogdo Oola) range, and the southern the Kuen-lun (Koulkoun) mountains. These two extensive mountain-ranges may be called the interior mountain-chains of the Eastern Highland of Asia: the Altai mountains on the north, and the Himalaya range on the south, constitute the exterior mountain-chains of this elevated region.

Between these four extensive mountain-systems lie the three wide plains which occupy the central countries of Asia, and in which respectively are found the three large lakes of Balkash, Lop, and Tengri. These three plains comprehend the three countries known under the names of Zungary, Tangut, and Tibet, and their general level probably rises higher as they advance from north to south.

The mountain-chains of the Eastern Highland of Asia are little known to us, if we except a small portion of the Altai mountains, and a part of the Himalaya range. Of the Altai mountains, only the most western ridges, to the east of Semipalatinsk, between the rivers Irtish and Oby, have been explored, and here only their northern slopes, which are known by the name of the Altai Ore Mountains (or Erzgeburge), because they yield annually 70,000 marks of silver and 1900 marks of gold: they rise near Kolywan to about 5400 feet above the sea. But the higher snow-topped ranges called the Altai Bielki, in which excellent jasper and porphyry are found, and which extend farther to the east, near the lake of Telezkoi, attain a height of 10,000 feet and upwards. Neither the woody mountains surrounding the lake of Baikal, nor the Da-urian ranges, which contain rich veins of silver, have so great an elevation, though their height has not been ascertained by actual measurement. They are however remarkable for their form: their tops do not present craggy summits, but rather extensive and nearly level plains like the table-lands.

The mountains in the interior of the highland are not known, except at a few spots, which have been traversed by travellers and caravans. Neither their height, direction, nor position is exactly ascertained.

The Himalaya, or Himmaleh, Mountains extend along the north-eastern boundary of Hindustan, and constitute likewise the northern boundary of the valley of Asam. They are situated between 27° and 35° N. lat. and 73° and 98° E. long. The most western portion (between 73° and 88° E. long.) lies in a general direction from north-west to south-east, forming a slightly-curved line, so that the north-western extremity runs north-north-west, and the south-eastern nearly due east. The eastern portion (between 88° and 98° E. long.) runs west and east. In the first direction the range extends more than 900 miles, and in the last about 600; its whole length is 1500 miles. Its breadth, as far as it is known, varies between 80 and 120 miles. The whole range may therefore occupy a surface of 150,000 square miles and upwards.

This extensive mountain range lies between two plains, a low and level one, which is drained by the Ganges and the Brahmapootra, and extends along its south-western and southern declivity, and the elevated and partly hilly table-land of Tibet, which lies to the north-east and north of the range. The plain of the Ganges and Brahmapootra, at its southern extremity, is little elevated above the sea, and where it is farthest from the shore its elevation does not much exceed 1000 feet. The table-land of Tibet, as far as it is known, rises to the elevation of 10,000 feet and more. The Himalaya Mountains may therefore be considered as an extensive slope, by which the elevated table-land of Tibet descends to the low plain of the Ganges. But as in most cases where two plains of different elevations lie near one another, the descent by which the higher sinks down to the level of the lower is partly occupied by a mountain-range running along the border of the more elevated plain, so the Himalaya Mountains rise far above the level of the table-land of Tibet, and where they are contiguous to it they constitute an uninterrupted range, covered with snow in its whole extent, with the exception of a few mountain-passes, which are partly free from snow during the hottest months. They terminate on the plain of the Ganges, in a wall-like range from 4000 to 5000 feet high, which however is frequently broken by gaps through which the rivers escape that carry off the water collected in the interior of the mountain-region. This interior tract between the two border-ranges varies considerably in the form of its surface in different parts.

The most north-western extremity* of the Himalaya is separated from the extensive mountain-region of Eastern Persia, which, from its highest mountain-range, has obtained the name of Hindu Coosh, by the narrow valley of the Indus. This valley has not been visited by Europeans, and nothing is known of the course of the Indus through it, except that it is probably more than 60 miles in length. We know, however, that a high snow-topped range protrudes into the most northern bend of the river, and skirts its banks as far south as the neighbourhood of Attock. This range, called the Gossie Mountains, constitutes therefore the most north-western extremity of the Himalaya.

The river Sutlej, an affluent of the Indus, originates on the table-land of Tibet, and traverses the Himalaya between 31° and 32° N. lat. in its winding course from east to west. That portion of the mountains which lies between the valleys of the Indus and Sutlej forms towards the table-land of Tibet, so far as is known, one uninterrupted range; its northern portion, which encloses the valley of Cashmire on the north-east, is called by the natives of that country Tibet Panjahl; the southern, between the upper course of the Chinab and the Sechoo, bears the name of the Paralasa Mountains. At the point of junction of these two ranges (between 33° 30′ and 33° 40′ N. lat.) are its highest summits, the Mer and Ser, which rise considerably above the snow-covered range, but their elevation has not been determined. From this elevated range, the mountain-region spreads south-west about 80 miles, and is formed of several ranges parallel to the principal range, but at unequal distances from one another, so that the valleys which are enclosed by them are of different widths. Though the ranges themselves are not covered with snow in all their extent, they contain several summits which rise far above the snow-line. These ranges are not continuous, but several breaks of considerable extent occur between them. The valleys which lie between the ranges are probably between 5000 and 7000 feet above the sea. The best known is the valley of Cashmire, which is nearly enclosed by snow-covered mountains, on the north-east by the Tibet Panjahl range, and on the south-west by the Peer Panjahl Mountains.

Twelve mountain-passes connect the valley of Cashmire with the adjacent countries, among which the four following are the most frequented:—1, the Kandriball Pass over the Tibet Panjahl range (near 34° 20′ N. lat.) to Leh or Ladak, on the table-land of Tibet; 2, the Sagam Pass, from Islamabad in Cashmire to Kishtewar and Jummû on the Chinab; 3, the Barramulla Pass, traversing the Peer Panjahl range by Canhorn to Prunch; and 4, the Barramulla Pass, running along the course of the river Jhilum to Mozufferabad and Attock. The passes which traverse the Paralasa Mountains are little known, except the Para Laha Pass, which traverses the mountains between 32° and 33° N. lat., and leads from the valley of the Upper Chinab to Leh.

We know very little of the mineral wealth of this range, except that at its western extremity, where the offsets of the Gossie Mountains approach the Indus south of Attock, extensive layers of rock-salt occur, which are worked to a great extent. As to the other natural riches of this portion of the Himalaya, Cashmire may perhaps be considered as offering the most favourable specimen. The whole of this part of the range is now subject to Maharaja Runjit Sing, the raja of Lahore.

We pass to the central part of the Himalaya, or that which extends between the valley of the Sutlej and Bootan (from 77° to 88° E. long.). Here the mountain region is about 100 miles across, and is not composed of parallel ranges, but enormous mountain-masses protrude from the principal range nearly to the middle of the mountain-region. These masses, which are of great extent and elevation, contain between them only a few transverse narrow valleys, which, when compared with the height and extent of the surrounding mountains, may appropriately be called ravines. Such protruding masses are the Moral-ka-kanda Mountains between the valley of the Sutlej and the upper branches of the Jumna, which exhibit numerous peaks rising to between 18,000 and 20,000 feet above the sea; the Mandjri Mountains, with their extensive snow-field, between the Supin, a tributary of the Jumna, and the last mentioned river; the Uncha-ka-Dunda Mountains between the Jumna and the Bhaghiratee, the principal branch of the Ganges. Farther east lie the mountain-masses of Jaunli and of the Panch-Kedar, which with their extensive snow-fields and numerous peaks, several of which rise to more than 20,000 feet, fill up the country between the two principal branches of the Ganges—

the Bhaghiratee and the Alakananda. Between the last-mentioned river and the upper branches of the Kali and Gogra, the most southern elevated mass is called the Tri Sula Mountains. It is over-topped by several peaks rising to more than 20,000 and 21,000 feet, and contiguous to it on the north is the great mass of the Jawahir, which in its most elevated summit rises to 24,238 feet, and is surrounded by other peaks not much inferior in elevation. To the east of the upper branches of the Gogra River lies an extensive mountain-region, called Mallebum, of which we hardly know anything else than that it is covered with very high mountains and partly with snow. It extends to the Dhawalaghiri range, the highest mountain-mass in the whole region, which occupies the space between 28° 30′ and 29° N. lat., and 83° and 84° E. long., and is traversed by the Gandaki Ganga or Gun-duck. Its highest summit, called Ghosa Cotee, attains an elevation of 28,000 feet above the sea, and is the highest known land on the surface of the globe. Contiguous to the Dhawhalaghiri Mountains on the east is the great mass of the Dhayabung Mountains, whose highest pinnacle rises to 24,560 feet. These extensive masses fill up the space between the Gandaki Ganga and the Bori Gadaki, and terminate north-west of Khatmandu on the banks of that river. The space between the Bori Gandaki and the Arun, an affluent of the Coosy, is mainly occupied by the Salpoo range, which contains two summits exceeding 24,000 feet in height, and many others nearly as high. The elevation and extent of the mountains between the Arun river and the boundary of Bootan are imperfectly known.

The enormous mountain-masses are separated from one another by long but very narrow valleys, which descend towards the south and south-west with rather steep slopes, especially in their higher parts. During the summer these upper valleys are covered with a vigorous vegetation, and are used by the inhabitants of the lower valleys as pasture-ground; but during the greater part of the year they are buried in snow, and uninhabited. Through these valleys lie the few roads by which the plain of the Ganges communicates with the countries on the table-land of Tibet. The most northern of these roads follows the valley of Sutlej. At Puari, where the great mountain-masses of the Moral-ka-kanda Mountains begin, the road is 6160 feet above the sea-level; and at Shipkee, where it issues on the table-land 10,481 feet. North of the Moral-ka-kanda Mountains the principal range of the Himalaya bears the name of the Kailas range, and the Charung Ghaut leads over it from the valley of the Buspa to that of the Todang Ghad; this pass attains the height of 17,400 feet above the sea. Out of the valley of the Bhaghiratee, or rather from that of its upper branches, the Jahneree river, the Gangtang Ghaut leads from Nilung to Chaprung, which is built on the banks of the upper Sutlej. It attains only the height of 10,150 feet, and is practicable for horses. The Manah Ghaut leads from the Vishnu Ganga, one of the upper branches of the Alakananda, to Chaprung, and rises to 18,080 feet. The road from the valley of the Douli, an affluent of the Alakananda, leads to Dumpo, on the banks of the upper Sutlej over the Necatee Ghaut, which rises to 16,620 feet. The Oola Dhoora Ghaut (30° 35′ N. lat.) rises to 17,790 feet, and contains the road which connects the valley of the Gori, an affluent of the Kali, with Dumpo. This seems to be the most frequented of all the roads traversing the Himalaya Mountains, as far as they are within the British dominions. The Neo Dhoora Ghaut, whose elevation has not been determined, is traversed by the road which leads from the valley of the Douli, an affluent of the Gogra, to the sacred lakes of Rhawan Hrad and Manas Sarowar: it is only frequented by Hindu pilgrims. The Taklakot Ghaut, which attains an elevation of 17,600 feet, is traversed by the road which connects the upper valley of the Kali, an affluent of the Gogra, with Taklakot, a place built 16,700 feet above the sea, near the sources of the Gogra, and on the table-land of Tibet. From Taklakot the road runs through another mountain-pass to the sacred lakes. We have only a very imperfect knowledge of the passes by which a communication is maintained between Nepaul and Tibet. From the Alpine province of Mallebum a long pass leads along the Gandaki Ganga over Mastang, where it attains its summit-level, to the plains extending along the river Sanpoo. The road by which the Chinese army in 1792 invaded Nepaul, begins on the side of Tibet at Kheru, attains its highest level at Siapi, and thence descends to Dhayabung, Noyakote, and Khatmandu. It seems to offer greater advantages than the other roads. Another road leads from Khatmandu along the Bhootya Coosy to Cuti, and thence over the Laugur Pass to Tangri, on the table-land. Farther east a road leads to Tibet along the river Coosy and its affluent the Arun, beginning at Vijayapoor and passing through Sekaura and Manigumbah to the table-land. The most eastern of these passes is the Phakali Ghaut, which leads from Sikim north-east to Tangchim, and thence over the mountains to Tibet; a part of this road runs through the territories of the raja of Bootan. Nearly all these passes are too steep and high for any beasts of burden, except sheep, which in the Himalaya mountains are used for the transport of merchandise.

The high mountain-masses advance so far from the principal range into the interior of the mountain-region, as to occupy more than one-third of it, when they descend with a rapid declivity. The other two-thirds of it are of a very different character. The general elevation of this lower portion may be between 4000 and 5000 feet above the sea. Almorah, a capital of Kumaon, on the river Kosila, and only 15 miles in a straight line from the lower edge of the mountain-region, is 5185 feet above the sea-level. Only the valleys, which are drained by the Bhaghiratee and Alakananda, the two principal branches of the Ganges, sink considerably below this level; Tiri, on the Bhaghiratee, being 2272 feet, and Sireenuggur, on the Alakananda, 1800 feet above the sea. Though the surface of this portion of the mountain-region is extremely uneven, and consists of continual elevations and slopes, with narrow spots of level ground between them, the summits which rise above it are not numerous; they are also considerably below the snow-line, as they generally do not rise above 8000 or 9000 feet. They are either isolated, or united by lower ridges, above which they rise 1000 feet and more. But these ridges do not run parallel to the mountain-region, except towards its lower border. This description however does not apply to the tract between the upper branches of the Jumna and the Sutlej river, which is much more mountainous. Here the mountain-ranges are higher, more continuous, and occupy a greater space, and several of the summits attain the snow-line. The Chur-Peak (30° 50′ N. lat., and 77° 30′ E. long.), which is hardly 20 miles from the lower edge of the mountain-region, is 12,160 feet above the sea. The difficulty which the great unevenness of this tract presents to an easy communication between the inhabited places, explains the circumstance of there being in it a great number of sovereigns whose dominion frequently extends only over a few villages. The remainder of this lower portion of the Himalaya range contains more cultivable land than is generally found in mountain-regions, and is also pretty well inhabited, though the villages are mostly very small.

The mineral wealth of that portion which belongs to the British, or is under their protection, is unknown; but Nepaul contains, according to Sir Francis Hamilton, rich mines of copper, iron, lead, and sulphur. Corundum is very common. In such a mountainous country the climate must of course vary extremely. We shall confine ourselves on this point to observing that the snow-line rises much higher on the north-eastern than on the south-western declivity: on the former it occurs at about 16,600 feet, and on the latter at 12,500 feet above the sea-level. It follows that the vegetation also must be different at the same elevation on the two sides.

The portion of the Himalaya between the Sutlej and Bootan is partly immediately subject to the British, or under their protection, and partly subject to the independent raja of Nepaul. The British dominions comprehend the countries between the Sutlej and the Kali Gogra. About one-half of the country between the Sutlej and Kali Gogra is governed by rajas under British protection, and the other half constitutes the British province of Kumaon. The mountainous country along the banks of the Sutlej river is occupied by 32 petty rajas, among whom the raja of Indur, who resides at Ramgur, and the raja of Kuhlur, who resides at Bulaspur, on the Sutlej, are the most powerful. But the territories of these rajas do not extend to the table-land of Tibet. The higher mountain-region is possessed by the raja of Bissahir, whose territories extend along both sides of the Sutlej river and beyond the Kailas Mountains, over a mountainous tract which ought to be considered as a part of the table-land of Tibet, and approach the town of Shipkee on the Sutlej. He resides in Rampur on the Sutlej. The raja of Sirmur governs the countries situated in the middle of the lower region west of the Jumna river. His residence is at Nahun, a town built not far from the edge of the mountains towards the plain extending between the Ganges and Indus. The territories of these princes occupy about half of the countries which are under British protection; the other half belongs to the raja of Gurwal, whose territories stretch over the whole breadth of the Himalaya range, comprehending all the countries drained by the Bhaghirattee, and by the upper course of the Jumna and Supin. He resides in the town of Tiri, on the banks of the Bhaghirattee: but the most important place is Dhera, a large town not far from the lower edge of the mountain-region, in a low and warm valley. North of this place, on the mountains of Massuru-ke-kanta, an establishment has been made for Europeans who have lost their health in the sultry climate of the plains on the Ganges, at Lundur, 7000 feet above the sea-level (30° 26′ 30″ N. lat., and 78° 4′ E. long.). The British province of Kumaon is annexed to the presidency of Allahabad; its capital is Almorah. The countries within the Himalaya range, extending from the eastern banks of the Kali Gogra to the boundary of Bootan, are subject to the independent raja of Nepaul, with the exception of a very small portion contiguous to Bootan, which is possessed by the raja of Sikim, an ally of the British, who resides in the town of Sikim. Within his territory also a sanatory is established for the presidency of Calcutta, at Dargiling, near the Teesta river, an affluent of the Ganges. Its mean temperature is about 36° lower than that of Calcutta.

The eastern portion of the Himalaya range, extending from the western boundary of Bootan to the very sources of the Brahmapootra river, is almost entirely unknown. We are only acquainted with it as far as it is contiguous to the road which leads from the plain of the Ganges through Tassisudon, the capital of Bootan, to the table-land of Tibet. Farther east the range has never been visited by Europeans. When seen from the valley of Asam it does not appear to rise to the snow-line west of 92° E. long.; but probably the lower ranges which are visible cover much higher mountains which lie north of them. Between 92° and 98° E. long. however, extensive ranges are visible, which rise above the snow-line, and they appear to attain a very great elevation near the sources of the Brahmapootra.

The word Himálaya is a Sanscrit word, compounded of *hima*, "cold, or frost, or snow," and *alaya*, "abode." ('Wilson's Sanscrit Dict.') The resemblance of the first part of the compound to the name of Hæmus (Balkan), to the Greek *cheima* (χεῖμα), and the Latin *hiems*, is obvious. The Greek and Roman geographers were acquainted with this enormous mountain-range under the general name of Imaus or Emodus, though their limited geographical knowledge does not allow us to assume that their term Imaus comprehended so much as the word Himalaya. It was known to Pliny that the word "Imaus signified, in the language of the natives, snowy" (vi. c. 17).

The vegetation of the Himalaya Mountains is particularly interesting, whether we consider it in a special or in a general point of view.

These mountains have their south-west or Indian base clothed with a dense and almost impenetrable jungle, which separates them from the plains of India. This belt diminishes in breadth as we proceed northwards, until it altogether disappears to the north of the Jumna, where, in the country of the Sikhs, cultivation is carried on close to the foot of the mountains. From the proximity of water to the surface of the soil, this tract of country is usually called the Tarai, or Wet-land; but between the Ganges and Jumna rivers, Khadir-lands. The moisture is maintained by the want of free evaporation from the surface of the soil, and is increased by the great quantities of watery fluid transpired by the multitudinous leaves of this dense forest; its dispersion being prevented by the want of free ventilation. With this uniformity of moisture we have also greater equability of temperature than in the open plains; for as less solar heat is absorbed during the day, so is radiation less free during the night under this umbrageous covering, as is the case in the open plains in cloudy weather. Accordingly we have the characteristics of tropical climate, and with it tropical or Indian vegetation, which therefore extends much farther north along this tropic-girt base, emphatically called by Bishop Heber the belt of death, than in the open plains, where great heats alternate with great cold. In the south-east parts, as in Silhet, Chittagong, and Lower Asam, the forests are composed of gigantic trees, with extensive climbers reaching to their tops, epipthytes covering their branches, and tall grass concealing their trunks, as well as the elephants, which are found there of the finest description. The trees are composed of Artocarpeæ, Terebinthaceæ, Euphorbiaceæ, arboreous Leguminosæ and Malvaceæ, Combretaceæ, Ebenaceæ, Aurantiaceæ, Cinchonaceæ, Guttiferæ, &c. Ficus elastica, the Caoutchouc-tree of Silhet, occurs in great abundance and of gigantic size, as well as the Theetsee, or Varnish-tree, of the Burmese (Melanorrhaeausitata of Dr. Wallich). Hiptage madablota, Bauhinia corymbosa, and Robinia macrophylla, form the climbers, with species of Cathartocarpus, Erythvina, Butea, Bombax, Hibiscus, and Cochlospermum Gossypium, with large and showy flowers. Here splendid tree-ferns are found, and numerous scitamineous plants, with the plantain and peppers. Great uniformity extends along the whole of this tract, as many of the species of southern parts are found in the northern as far as 30°, as the Dipterocarpeæ, Shorea robusta, Ebenaceæ, Diospyros glutinifera, Lauraceæ, Cinnamomum albiflorum, Piperaceæ, Piper longum; a dwarfish Phœnix, P. humilis, and a trailing Calamus, represent the Palms.

In the tract of forest between the Ganges and Jumna are found many species which occur also beyond the limits of India, as Cassia elata, at the mouth of the Irrawady, in the Birman empire, Marlea begonifolia in Java, and Deeringia celosioides in New Holland. In the most northern parts Nerium odorum, or Oleander, is found along the banks of rivulets, as it is on those of watercourses in the north of Africa.

In this tropic-like forest the elephant reaches his most northern distribution on the banks of the Jumna, where a Paradoxurus is common: the rhinoceros does not extend beyond the eastern bank of the Ganges. Many tropical birds travel even farther north in the rainy season. A huge Python is found in the lower hills, as well as a Monitor of large size. Most of the insects also are those of hot and moist climates: Papilio Parakekte, found by Dr. Horsfield in Java, is also common at the foot of the hills in 30° N. lat.

The decrease of temperature being gradual as we ascend mountains, so is the disappearance of tropical forms in the Himalayas; and we continue for some time to meet with plants like Nyctanthes arbor tristis, which are common in the plains of India. But Indian trees and shrubs soon disappear. On reaching the region of Rhododendron arboreum and Quercus lanata, at about 5000 feet, scarcely any but European forms are visible. But as a few species of tropical genera travel into northern latitudes, so we find some such among the European-like vegetation met with at 6000 and 7000 feet of elevation, in 30° N. lat., as a few laurels and some Acanthaceæ, with species of Loranthus, even on an oak. But annuals which require only a few months to grow and ripen their seed indicate the temperature of the season, and not that of the year. Thus many tropical plants may be cultivated in the summer of European countries, and European plants and cultivation may be seen in the plains of India from November to March, or in what is the winter, as of more northern latitudes. In the same way we may see annuals characteristic of Indian or tropical vegetation at a much higher elevation in the Himalayas in the summer months than appears compatible with the prevalence of snow and great cold in winter. This anomaly presents itself at much greater elevations than would be expected, or indeed possible, were it not that the whole of the southern face of the Himalayas is under the influence of the tropical rains, during which they are inundated like the plains, and at the same time enveloped in clouds. The air, as it rises from the heated plains loaded with moisture, deposits it on reaching the point of saturation in these mountains. Hence continual moisture is preserved, and also equable temperature; for the cloudy covering prevents much absorption of heat during day, as it does radiation during night. The cooling besides of a ridge or a peak has but small influence on the mass of the atmosphere by which it is surrounded. Hence we observe but little change in the thermometer from night to morning, or from day to day, or week to week, and the temperature does not vary 10° of Fahr. for three months, or from the middle of June to the end of September. During this season, therefore, we see many plants in luxuriant growth which could not exist here for even a single day if either the moisture was less or the cold greater, as Balsams, Begonias, some Melastomaceæ, numerous Cyrtandraceæ, tropical Orchideæ, and Scitamineæ. The branches of the trees become covered with mosses and ferns, as well as epiphytes, such as Dendrobium alpestre and Cœlogyne precox: even Thalictrum radiatum and Arum viviparum are found on trees at this season of the year. A small bamboo even may be seen at 9000 and 10,000 feet, as well as Roscoea alpina at the former height, both having their roots protected by the earth and the covering of snow during winter.

It is in those months that rice is cultivated in these mountains, as well as other tropical grains, together with a species of arum, which is one of the principal articles of the chiefly vegetable diet of the hill-people.

The climate however of these mountains at about 7000 and 8000 feet of elevation being temperate, with greater uniformity however, and a less range of the thermometer, or from about 25° to 80°, supports a European-like vegetation. Instead however of all the species being Indian, though of European form, many species are identical with those found in the plains of European countries. Of such there are several instances in the families of Cruciferous and Labiate plants, also among the Compositæ and Leguminosæ. We may mention as instances, Ranunculus arvensis, common thyme, marjoram, and some of the mints; shepherd's purse, Prunella vulgaris, and the widely diffused Samolus valerandi, though nowhere met with in the plains of India. This identity of species is not confined to herbaceous plants, as we have the yew and the walnut, with the ivy and Rubus fruticosus. The apricot and the pomegranate may be supposed to have been introduced, but the latter is undoubtedly wild. Pyrus baccata is a small Siberian tree, found also in these mountains. Several of the Caucasian genera are also met with; and there is a great similarity between the vegetation of the Hindu Coosh and that of the Himalayas in genera, an probably also in species.

It is curious to find among the above many which have hitherto been thought the peculiar genera of China and Japa as Stauntonia, Abelia, Deutzia, Eurya, and Camellia. Tea itself has now been found in Upper Asam, but probably escaped from cultivated places; even some of the same species occur in the Himalayas and these countries; as Cleyera ochnacea, Hovenia dulcis, Kadsura and Lonicera Japonica, Houttuynia cordata, Ophiopogon spicatus, Pardanthus chinensis, and many others. Hence inferences were drawn that many parts of these mountains were fitted for the cultivation of the tea, long before it was known that it already was so in Asam. t is still more interesting to find here some North American genera and species; as Triosteum, Osmorrhiza, and Phryma; and even identical species, as O. brevistylis and P. leptostachya, ith Desmodium nudiflorum, and a species of Panax closely llied to the Chinese P. Ginseng and American P. quinque-olium, which Dr. Wallich has named P. pseudo-Ginseng.

The vegetation of the upper belt consists of oaks, pines, and firs of various kinds, yews, birches, sycamores, poplars, with viburnums, roses, &c. Here the climate bears some resemblance to that of polar regions in the same season, the peaks are covered with snow for nine months in the year, which only melts when the sun has great power, and the light is bright in the rarified atmosphere of these elevated regions. Junipers, dwarf-willows, and Rhododendrons, with Andromeda fastigiata, closely allied to the Siberian A. tetragona, reach the highest limits. Along with the showy Primulas may be seen plants which are very ilar to those of Arctic regions, as Ranunculus polypetalus to the Siberian R. glacialis of Fischer; a species of saxifrage, S. stenophylla, hardly to be distinguished from S. stolinifera, brought from Melville Island. This similarity in form to the plants of very distant regions is not however confined to genera containing numerous species, but is observable in others where two or three only constitute the genus, and of which one is found in these mountains; as of Sieversia which occurs also in Melville Island and Kamtchatka, and Dalibarda in North America and the Straits of Magalhaens, where many of the same genera are found as on these lofty peaks. The genera Oxyria, Gymnandra, Wulfenia, Dictamnus, Coriaria, and Staphylea, afford other instances, though ome are found at a lower elevation. Ourisia is found in these mountains as well as in Van Diemen's Land and the Straits of Magalhaens.

The snowy passes exhibit many of the phenomena characterising these lofty peaks. The resemblance in form, however, is not confined to the vegetable kingdom. The Himalayan fox can scarcely be distinguished from the European species. Many birds are identical in species with those found in Europe: the woodcock may be adduced as an instance. Many insects also do not differ from those found in Europe. At still greater elevations the Alpine hare, or Lagomys, is found, which hardly differs from the Siberian Pika. A jay (Garrula bispecularis) is of an American form, as is the genus Paussus among insects, which, until brought from the Himalayas by Mr. Downes, was thought to be confined entirely to North America.

In crossing the snowy mountains by the passes, which are flanked by snowy peaks usually 3000 or 4000 feet more elevated, and which prevent the passage across of the air loaded with moisture, we have a very different set of phenomena presented. The district of Kunawur may be considered a portion of Tartary, or Tibet, instead of India, though some Indian forms still show themselves in the bed of the Sutlej, in Lower Kunawur. The climate is extremely dry, and evaporation very rapid. Very little rain falls at any time. The country is covered with snow from the end of October until April, but the layer is never very thick, from the great dryness of the climate. The cold is intense during winter, but the thermometer in July and August ranges from 55° to 58° in the morning, and rises even as high as 80° or even 85° during the day, in villages elevated 10,000 feet. "When the snow is melted, these elevated tracts, surrounded and confined by towering mountains, absorb heat as readily during the presence of the sun, as they radiate it freely during his absence; and becoming, like the surface of the earth at ordinary levels, the source whence the heat received from the sun is diffused to surrounding objects, they cause the line of perpetual congelation (and consequently of vegetation) to rise higher and higher in proportion to their own elevation. Peaks and pinnacles, on the contrary, projected into the air like promontories into the ocean, partake rather of the equability of the media into which they intrude, than impress on them, like plains and table-lands, their own extremes of heat and cold." (Royle, Illust., p. 39.)

Kunawur is everywhere intersected by elevated ridges which are crossed by passes varying in elevation from 12,000 to 18,000 feet; on some of those to the eastward, even on the latter height, little snow is seen in summer, and that only in streaks. Vegetation extends to 16,600 or even 17,000 feet. Junipers are found at 14,500 feet, Rhododendron lepidotum below them, but above the birch, which is found at 14,000 feet. Pines do not extend beyond 12,300 feet. The highest cultivation was seen by Dr. Gerard near Dabling, at 13,600 feet, consisting of barley, buckwheat, and turnips.

The Tartar province of Hungarung lies north of Kunawur, but separated by a lofty range which is crossed by a pass at an elevation of 14,800 feet, coinciding here with the limit of snow. The mountains have rounded outlines with gentle declivities. The country is destitute of trees, and presents everywhere a picture of arid barrenness. The villages are at elevations of 10,000 to 12,000 feet. Nako is at the latter height, on the western face of lofty mountains, yet there are produced luxuriant crops of wheat, barley, buckwheat, and turnips 700 feet higher, rising by steps on terraces, enclosed by hedges of gooseberry, barbary, and juniper. Caragana Gerardiana and versicolo extend to 13,000 feet, and are the plants called Tartarian Furze by travellers. Dr. Gerard also found this at a village at a height of 14,700 feet, where the barometer gave 14,900 feet, as the elevation of the highest field of cultivation.

The fruit trees of the northern face of the Himalaya mountains consist of species of Pyrus and Persica, with the apricot, of which the fruit is dried, and the grape-vine, from which wine is manufactured. The families and genera of plants which prevail here are strikingly similar to those occurring in the Altai Mountains, as described by Ledebour in his 'Flora Altaica,' also in the south of Siberia and on the Caucasus, as among them we not only find such genera as are common to these countries and other parts of the world, but several which are remarkable and peculiar, as well genera as species. Among the latter we find Lithospernum amplexicaule, Cuminum Cyminum, and Hyoscyamus niger (the last found both in Caucasus and in Europe); Biebersteinia odora, in Persia and on the Altai range; Crambe cordifolia and Tauscheria desertorum of the Caucasian Flora, the latter also found on the deserts of the Kirghis and the banks of the Irtisch. Many others might be enumerated, but the above are sufficient as examples, and it is impossible within our limits to attempt a complete view of so extensive a subject. Notwithstanding the apparent barrenness of much of the country on the northern face of the Himalaya, nowhere are the flocks of cattle more conspicuous for number and variety. The cold and dry atmosphere is particularly favourable to the shawl-goat. The sheep and goat are both used as beasts of burden, and the dog is of large size, and, like the others, furnished with fine wool under the upper shaggy hair. The Bhural (Asiatic Argali), the Yak (Bos grunniens), the wild horse, the Yuckur, or wild ass, and the Daiggtai, or Equus Hemionus of Pallas, are all found here, and obtain nourishing food from the grasses of European genera, and the leguminous Astragali and Caraganas. Among birds, Gypaëtus barbatus and the chough, or red-legged crow, are common, with three species of pheasants, and the Chukor, which is most frequently seen on the most barren hills. (Dr. Royle's 'Illustrations of the Botany and other branches of the Natural History of the Himalayan Mountains.')

The Highland of Eastern Asia is surrounded by extensive terraces, through which the great river-system descends to the low lands bordering on the ocean.

On the mountain-ranges which bound the table-lands on the north four great rivers take their rise; the Irtish from the lake of Zaisang joins the Oby and Tobol; the Yenesei unites with the Angara, which issues from the lake of Baikal, and with the two Tunguskas; the Lena, with its great tributary the Witim; and the fourth is the Amur. They run respectively 2000, 2500, 2000, and 1900 miles, measured along the course of the rivers. The Irtish, with its tributaries, drains upwards of 1,300,000 square miles, the Yenesei about 1,000,000, the Lena nearly 800,000, and the Amur about 850,000,—all taken together, a surface much more extensive than that of Europe, and the greatest part of which belongs to Siberia. They abound in fish, and have plenty of water, so that two-thirds of their courses are navigable; but the lower part is for more than six months of the year covered with ice. This causes in spring-time an excessive swelling of the waters in the upper branches and tributaries, by which their banks are torn off, and great masses of rocks and earth carried down, and strewed over the flat country along the lower course of the river. The navigation on the principal water-courses from south to north is, for this reason, very inconsiderable; but it is much more important in their tributaries running east and west, by means of which a water-communication is established through the greatest part of the countries between the Ural Mountains and Okhotzk.

From the mountain-region, bordering on the highland of eastern Asia, two extensive terraces descend gradually towards the Pacific Ocean, besides a great number of smaller ones. The latter are watered by smaller rivers, but the two former give rise to the two great river-systems of the Hoang-Ho and Kiang (Kincha-Kiang, Ta-kiang, or Yantse-kiang), of which the former runs upwards of 2000, and the latter more than 2900, if their great bends are taken into account. Each of them carries off the waters of a surface of above 700,000 square miles. The Chinese call them the sons of the ocean, a name probably derived from the tides ascending them upwards of 400 miles, by which they are changed into seas of fresh water, and rendered navigable to a great distance from the sea. This great advantage of the Chinese rivers, arises from their geographical position with respect to the Pacific Ocean, in which the tides rise to the greatest height. The sources of these two rivers are not very distant from one another on the table-lands, but in their middle course they are widely separated to the north and south by the ranges which form the borders of the highland; in the lowlands of China, however, they converge again, and their embouchures are only about a hundred miles distant from one another; but before they fall into the sea, they are connected by numerous canals. The tract between these rivers may therefore be considered as one immense *delta*, and the rivers themselves as a *double* river-system, formed on the most colossal scale, between which is situated the best cultivated country on the globe, central China, which to these rivers is indebted for its system of canals, and its civilization.

The rivers of southern Asia form three distinct groups, of which those of India east of the Ganges are little known: only their mouths and the lower parts of their course have been explored. These rivers, of which six or seven run a considerable distance, taken together, contain probably a greater volume of water than all the rivers of the northern half of Africa. Their course lies from north to south, or S.S.E., and the valleys drained by them extend in a parallel direction between the mountain-ranges, which are as uniform as the valleys, and widen towards the Sunda Archipelago, in the shape of a fan. The rivers of Camboja, Siam, and Pegu, which are the largest, carry off a great volume of water, and are navigable to a considerable distance from the sea; but they have not yet been explored, except the river of Pegu or the Irawaddy, which, in the late war with the Burmese, was navigated by armed vessels, and ascended by the steam-boat Diana, up to the town of Ava, 446 miles from its mouth. It is said to be navigable for boats three hundred miles higher, to B'hamo. Its upper course was visited in 1827 by Wilcox and Burlton, who, setting out from Sadiya in Asam, traversed the Langtam mountains, and had a view of the river in 27° 30′ N. lat. only about fifty miles from its sources, which lie in the snow-covered mountains farther north. At this place the Irawaddy is about eighty yards wide. On the maps of D'Anville this river seems to be identical with the Zangbotsu, or the great river of Tibet, which flows to the south of H'Lassa; and some passages, quoted by Klaproth from Chinese authors, confirm the conjecture of the French geographer. If this is true, the Irawaddy has a course of nearly 2000 miles, and its sources lie at no great distance from those of the Ganges. But the information collected by Crawford in Ava, and by Wilcox in Asam, is not in favour of this hypothesis.

The rivers *of India*, within the Ganges, run in a direction quite different from that of the rivers beyond the Ganges, which are parallel to one another. The Ganges and the Indus take a diverging course, and enter different parts of the sea; but their tributaries, especially the Jumna and the Sutledge, approach one another, and facilitate the commercial intercourse of the nations which inhabit the banks of the principal streams. The advantages which result from these rivers flowing into different gulfs are still greater. The Gulf of Bengal brings the inhabitants of the peninsula into communication with the nations of Malay origin and with the Chinese, whilst the Gulf of Malabar opens to them the coasts of Persia and Arabia. It is principally through this direction of its rivers that India within the Ganges has enjoyed such opportunities of civilization over India beyond the Ganges.

The river-system of the Ganges and Brahmapootra extends about 1300 miles in length, and drains a surface of nearly 650,000 square miles. The Ganges rises in the Himalaya mountains, in the most elevated regions of the globe, covered with extensive masses of snow, from which abundance of water continually descends, and is carried off by a dozen great rivers, many of which exceed the Rhine in volume and in length of course. These rivers enter the Delta of Bengal, which is twice as large as that of the Nile, and presents a most extensive and intricate system of rivers and canals, for irrigation as well as for navigation. By its junction with the Brahmapootra, which descends through the valley of Asam, the river-system of the Ganges becomes double, and not unlike that of the great Chinese rivers. The Ganges and the Brahmapootra descend from regions different in natural advantages, of which only that adjacent to the Ganges has attained a high degree of civilization.

The river-system of the Indus has the highest historical interest, partly from containing the Penj-ab, the country of the five rivers, which descend from the eastern mountains, partly from the Cabul, the only important river which joins it on the west, and partly from its geographical position. Flowing along the eastern edge of the table-land of Iran, with a general course from north to south, it forms the true boundary between Eastern and Western Asia. India, that country which more than any other has attracted the admiration of the philosopher, the cupidity of the conqueror, and the speculations of the merchant, is accessible from the west only by two roads, one of which, leading along the valley of the Cabul river, passes through Attock on the Indus to the Penj-ab; the other, which has been less used, leads from Herat through Candahar to Shickarpoor near the Indus. The track which leads from the table-land of Iran through Cabul to the narrow terrace on which Peshawer is built, and thence to Attock, is the high-road, along which the people of Asia for many generations descended in their passage to India, but which never was ascended by the natives of that country. The sources of the Indus have only been recently discovered (1812), as well as those of its great tributary the Satadru (Sutledge); both of them rise on the high table-land of Tibet, the Indus on the slopes of the Kailasa Mountains, and the Satadru in the sacred lake of Manasarovara. These rivers therefore do not originate, like the Ganges, on the southern slopes of the Himalaya range, but on its northern descent and the high table-land itself; a fact which till lately was not known. From this circumstance it follows that these rivers traverse the range in all its breadth, and pass through immense clefts in the mountain-mass, before they arrive at the low plains of Hindustan. Below the Punjnud (or Pancha-nada, *i. e.* the five-fold river), which receives all the waters of the Penj-ab, the Indus, like the Nile, is not enriched by any considerable tributary; and its delta, which was once so famous for its civilization, is at present in a neglected state, and has partially been changed into an uncultivated desert. The whole course of the Indus amounts to upwards of 1500 miles, and it drains a surface of more than 400,000 square miles.

Such are the ten or twelve extensive terraces of Eastern Asia, which, differing in their forms and geographical position, and traversed by large river-systems, display a great diversity of natural productions, and have given a different turn to the progress of civilisation among the nations which inhabit them. They are partly divided from one another and partly surrounded by the lowlands. But these latter are not flat level countries. Mountain-ridges and table-lands often rise in the middle of them, though they do not attain such a height as those of Central Asia. Such a table-land is found in southern China, where it constitutes the mountain-region of Yun-nan, Su-chuan, and Kuang-si; in India beyond the Ganges, where it occupies Laos; and on the peninsula within the Ganges, where the table-land of Deccan is the most remarkable, and at the same time the best known, of these subordinate highlands.

This plateau of Deccan occupies with its elevated plains, which, on an average, rise from 3000 to 4000 feet above the level of the sea, the greatest part of the triangular peninsula between the Arabian Sea and the Bay of Bengal. The mountain-range, known by the name of the Ghauts, forms the western edge of the table-land, and descends rapidly to the narrow, rocky, and picturesque coast of Malabar, which is characterized by its numerous harbours. On the northern side, where the Vindhya Mountains stand, it sinks in steep terraces extending through the provinces of Malwa and Bundelkund, till it terminates in the flat plain of northern Hindustan. Towards the east its descent is formed by gentle slopes and terraces, as the course of all the rivers shows, which run off from the high plains to the flat and broad, but sultry and arid, coast of Coromandel, which, though surrounded by shoals and without harbours, has become the favourite place of European colonies. This table-land of Deccan is much favoured by nature. Its insulated position is quite independent of the highland of Central Asia; it is placed between two seas and in the conflict of the monsoons, and cooled by sea-breezes. Moreover, its surface being formed by a series of terraces, which lie within the tropics, it enjoys all the advantages of tropical countries, without partaking of their disadvantages. On the sultry coast the luxuriance of vegetation is displayed in the cocoa-palm, the mango-tree, the cinnamon-laurel, and the pine-apple; it thence passes through forests of teak-trees to the rice-fields on the table-land of Mysore; and still higher on the cool summits of the mountains there are the fruit-trees and grain-fields of Europe, flax-plantations, and rich meadows. Among the three peninsulas with which Asia terminates on the south, and which remind us of the three peninsulas of Europe—Greece, Italy, and Spain—on which civilisation made such rapid progress, the peninsula of Deccan has certainly contributed most to the social improvement of mankind. The same advantages are enjoyed by the adjacent island of Ceylon, which resembles the Deccan in the form of its surface, and may be considered as an appendage of it.

The Highland of Western Asia, though much smaller in extent, forms the second principal feature in the physical character of this continent. It is not only nearer Europe, but likewise much more akin to it in its natural structure, and for both reasons more closely connected with it in an historical point of view. The form of its surface, less colossal and extensive in its parts, more nearly resembles that of Europe; and the same may be said of the climate and people.

The Highland of Western Asia, which is named the high table-land of Iran, in opposition to the deep plains which are adjacent to it on the north-east, called Turan, has the figure of a rectangular oblong, extending from the Upper Indus through all Western Asia, to the shores of the Grecian Archipelago. Its centre is occupied by Persia; over its western parts extends the dominion of the Turks, and its eastern division contains Afghanistan. It is materially distinguished from the Highland of Eastern Asia by the surface being more generally cultivable, and exhibiting extensive tracts which actually are cultivated, or were so formerly. The latter circumstance is abundantly proved by the ruins of large towns which exist even in those districts which at present are without cultivation; as on the north-east in Khorasan, the ancient kingdom of Bactria, towards the south in Karmania and Persis, and even in the western districts, as in Kurdistan, which formed a part of ancient Media. This observation, however, is not applicable to the south-eastern corner of the Highland, comprehending the ancient provinces of Gedrosia and Arachosia, which at present forms a part of Beluchistan, and attains its greatest elevation in the table-land of Kelat, which rises, according to one estimate, to 7000 feet above the level of the sea. Its eastern and extremely rapid descent towards the valley of the river Indus, which is formed by steep rocks and feeds no rivers, is without cultivation, and even without roads, except one, and only inhabited by savage tribes of Afghan origin, who have no historical records. The road alluded to is that from Candahar, through Pisheen, Quetta, and Baugh, to Shickarpoor. ('Conolly's Overland Journey to India.')

The northern edge of the Highland, which extends along the southern shores of the Caspian Sea and the plains of Bucharia, contains the Bactrian, Parthian, Hyrcanian, and Caspian mountain-passes, which are narrow defiles, offering a passage for the armies of conquerors which descend from Iran to Turan. This country has, for many centuries, been the abode of warlike mountain tribes, whose chiefs, by holding possession of the mountain-passes on the north, have extended their dominion over the extensive plains of the table-land. This was the policy of Nadir Shah and of Fet'h Ali Shah, who, sensible of this peculiar circumstance, fixed their residence at Teheran, a town built near one of the passes, on the high table-land. The caravans, which travel eastward to India and Bucharia, and westward by Tauris (Tabreez) to Armenia and Asia Minor, are obliged to pass along the southern side of this mountainous boundary-girdle, and near the openings of the passes. Along the great road, which is invariably fixed to this tract by the nature of the surface on the northern boundary of the table-land, there rose numerous great emporiums. Here we find the towns of Cabul, Candahar, Herat, Meshed, Nishapoor, Teheran, Rai (the ancient Rhagæ), Casbin, and Tauris.

The southern border of the table-land of Iran is still more distinctly marked by nature. It is separated from the low and narrow coast and the wide plains watered by the Tigris and Euphrates, by a broad mountain-tract, which, beginning at the mouth of the Indus, extends to the place where the rivers of Mesopotamia, breaking through the rocky masses of the high table-land, enter the low plains. This mountain-tract consists of from three to seven parallel ridges, separated by as many narrow longitudinal valleys, which sometimes extend many days' journey in length. The ridges are composed of limestone, and rise like terraces from the low coast. Beyond them extend the wide table-lands. There are few mountain-passes through this natural entrenchment of Persia, a country which may be considered as a fortress erected by nature for the defence of the nations which inhabit it. Among these narrow mountain-passes, which lead from the sultry low coast called the Gurmsir (warm region) through the great staircase of mountain terraces to the cool table-land in the interior called Sirhud, three roads have acquired some celebrity in history, which we shall notice more particularly under the names of the *Eastern*, *Middle*, and *Western Mountain-road*.

The Eastern mountain-road begins at the harbour of Bender Abassi or Gambroon, near the entrance of the Gulf of Persia, and leads northward to Kerman, the ancient Karmania, situated on the cool table-land, in a spot which abounds in springs, and is covered with fruit-trees, though surrounded by desert plains, in which it lies like an oasis in the midst of the Libyan Sahara. From Gambroon a road also leads past Lar to Shiraz. ('Herbert's Travels,' p. 124, &c.)

The Middle mountain-road begins at the town of Abou-shehr or Bushire, on the shores of the Persian Gulf, and leads first over a lower ridge to Kazrun, near Shahpoor, the residence of the Sassanidæ (of king Sapor I., A.D. 240), which is situated in the first valley; from this point it passes over a rocky mountain to Shiraz, once the residence of the Arabian caliphs, which is built in a wider and richer valley; and then through winding mountain-roads and narrow ravines to the valley which contains the ruins of Persepolis. From these ruins the road, continuing in a northern direction, again traverses some narrow passes through high rocks, which are full of monuments of the early ages of Persia, till it issues out of the mountain-region, and enters the extensive table-land on which Ispahan, the residence of the Sufi dynasty, is built. The residence-towns of these different dynasties have been built on the fields of battle where signal victories were obtained, and are placed at the openings of the most difficult mountain-passes. The Arabs were obliged to pass through this difficult road on their way to Persepolis, and this has likewise been the route of modern travellers who have entered the inland provinces of Persia from the Persian Gulf. The Macedonians, under Alexander, and after them Timur, made their way from the banks of the Karoon to Persepolis up the valley of the Jerahi and by the pass of Kalat-i-Sefid.

The Western mountain-road, which lies to the north-west of the former, may be called the Median, in opposition to the Persian, which passes through Persepolis. Beginning at or near the modern Bagdad, it passes through the Mediæ Pylæ of the mountain-range called Zagros, runs by Kermanshaw, Besittoon, and the remains of the temple at Kungavur, and terminates at Hamadan, the ancient Ecbatana in Media. This road, like the preceding, contains many historical monuments, and it crosses the upper course of the rivers which flow through the low lands of Susiana.

Thus a series of towns, the seats of ancient kings, and now the sites of historical monuments, beginning with Kerman, and comprehending Persepolis, Parsagadæ (or Parsagarda), Ispahan, and Hamadan, and terminating at Tauris, lies along the internal slope of the mountain-ridges which border the table-land of Iran on the south, analogous to that series which we have observed along the northern girdle of the mountain-range. These towns mark the boundary which separates the region of the natural fastnesses, of the mountain-passes, of the battle-fields, of the pastures, and of the country adapted to the chase, which is formed by the mountain terraces, from the interior table-land, which is more level and uniform in its aspect. The table land itself is traversed by some ridges of hills, which extend in a general direction east and west, and attain only a moderate height above the plain; it is also furrowed by a few depressions, which are covered with green meadows, or scanty pastures or steppes, and in a few places with sandy deserts, or a soil impregnated with salt.

Fraser, on his route through Persia from Abushehr to Teheran, determined the elevation of many points above the level of the sea, and his statements give a very instructive view of the continually changing surface of Iran. Abushehr is built on the shore of the sea in the sultry Gurmsir, and has a climate favourable to the growth of palms. Kazrun, on the first mountain terrace, is 2772 feet above the level of the sea. The highest point of the pass called Desht-i-Arjun, above Shiraz, rises to 7200 feet. The town of Shiraz itself, which is built on the second mountain terrace, is 4284 feet above the sea; its climate is favourable to the vine: but the palm does not succeed. The highest point of the pass over the third mountain-ridge above Persepolis rises to 6666 feet. Ispahan, lying in the plain which forms the third terrace, is 4140 feet above the sea. From this level the mountain-passes lying farther north near Kohrood rise nearly 2000 feet higher. Towards Koom we find the greatest depression in the table-land: here the surface sinks to 2046 feet. It rises again in the plain on which Teheran is built, which has an elevation of 3786 feet. The mountain-pass which leads to the Caspian Sea past Kishlac rises to 4572 feet; and the entrance of the Hyrcanian pass at Sharood to 3414. The Demáwend, the highest mountain-peak in this country, attains an elevation of about 14,700 feet; but most of the adjacent summits do not rise above 7000. ('London Geog. Journal,' viii. p. 112.) The northern slope of this range towards the Caspian Sea is extremely steep.

The most remarkable feature in the surface of Persia is the absence of any considerable river, though this country occupies a space at least equal to that of all Germany. This does not arise from a want of spring water, which is found at no great depth under the surface almost everywhere, and renders this country cultivable in most districts; but it is owing to the want of extensive valleys traversed by running waters. This want has deprived it of an extensive river-system, and consequently of the most powerful means provided by nature for a continual progress in civilization. To this circumstance it must be attributed that the nations of Iran never got entirely rid of the character peculiar to a pastoral life, though from time to time they have exhibited a considerable degree of mental culture.

At the western extremity of Iran, between the innermost corners of the Gulf of Persia and of the Caspian Sea, about the fiftieth meridian, the table-land narrows to nearly half its former extent, but it increases in elevation. To the east of this line extensive plains form the prevalent characteristic, but to the west mountain-masses rise higher and higher. Here begins the alpine region of Persia with Kurdistan, here are the lakes of Urmia and Van, and the sources of the rivers Zab, Tigris, Aras, and Euphrates. The table-land is replaced by mountains, which rise to an enormous height, and by elevated valleys between them. Such is Azerbijan, the fire-region, the native country of Zoroaster. On the north-west both the mountain-ranges and the table-lands are again united in the compact mountain-region and high table-land of Armenia, of which Azerbijan forms only a lower terrace. The countries of Asia which extend west of Armenia resemble in their structure Europe rather than Eastern Asia. The surface no longer presents such compact masses, which rise to a considerable elevation, and extend over a great space; it offers to the view more separated and distinct masses, which form as it were individual limbs. We may distinguish four different divisions of this kind.

The first is the elevated and mountainous table-land of Armenia, which extends in the form of a triangle between the angles of three seas, the Caspian, Black Sea, and the Gulf of Alexandretta. The plain on which the town of Erzerum is built is about 7000 feet above the level of the sea, and the highest summits of the Ararat, which overtop the plains, attain the height of 17,260 English feet.

The second great division is formed by the Caucasus, which is united to Armenia by ridges of moderate height, in part covering the Caucasian isthmus. This high mountain-region is characterized by its isolated position and its entire independence of the table-lands of Asia, as well as by its double descent to the north and south, which renders it much more like the mountain-regions of Europe than those of Upper Asia. It may be compared with the alpine region of Switzerland, and is distinguished like that country by its natural productions and the character of its inhabitants, though the rivers which rise in its mountains (Kur, Phas, Kuban, Terek) cannot be compared with those of Europe in length or in importance.

The third separate mass, which lies on the western border of the Highland of Asia, is the peninsula of Anatolia, which, on three sides, is surrounded by seas, and on the east is joined to Persia by the mountain-system of the Taurus. The interior is occupied by a table-land, which, on an average, perhaps rises to the height of about 2000 feet above the sea, and descends with steep slopes towards the north and the south. Towards the west the descent is gentle, being formed by long fertile valleys traversed by abundant streams till it terminates on the shores of the Ægean Sea in a coast full of promontories and indentations, marking the termination of the ranges which run from east to west in this peninsula. This peninsula is placed like a bridge for the passage of nations between Asia and Europe; it may be compared with the Pyrenean peninsula in many respects.

The fourth region, which is connected with the Highland of Western Asia, is formed by the Syrian mountains, which running towards the south contain Mount Libanus, and thence continue to the elevated cone of Mount Sinai, an isolated mountain-mass, which is a rare occurrence in Asia.

Western Asia, though indented by gulfs and arms of the sea, which make peninsulas and head-lands, is not favourable to the formation of extensive river-systems, which only occur on the eastern side of Asia. Like Europe, it presents forms of less dimensions and more adapted to the dominion of man. Only one extensive river-system exists in this country, and this consists of two large rivers; a feature which is peculiarly characteristic of Asia. This is the river-system of the Euphrates and Tigris; the north branch of the Euphrates comes from near Erzerum, and the east branch from the western extremity of the table-land of Iran, where the country rises to a complete mountain-system, with diverging ridges and intervening elevated valleys. The Tigris rises on the south side of the high range, along the north side of which the eastern branch of the Euphrates flows. The Euphrates has a winding course of near 1800 miles, measuring along its whole line. When these rivers have passed through the Taurus, the Euphrates north of Rumkala, and the Tigris above Mosul, they begin to converge and to surround Mesopotamia, till they approach in the ancient Babylonia. Their waters traverse the same delta, and enter the Persian Gulf by one channel.

In the valley of the Nile civilisation descended along its banks from one royal residence to another, from Meroë to Thebes, and thence to Memphis and Sais. But in the valleys of the double rivers of Asia we meet with double royal residences, double civilisation, and double political systems, as Babylon and Ninive respectively on the Euphrates and Tigris; Delhi and H'Lassa, with Brahmanism and Buddhism, on the river-system of the Ganges; and on the double river-systems of China, the southern and the northern empire, Ma-chin and Khatai. In the progress of time, when civilisation descended these streams, and met at their conflux, or where they approach near one another, the different degrees of perfection which it had attained, and the different turn it had taken, must have produced, as the nations came in contact with one another, a beneficial effect. The same observation applies to the fourth great system of double rivers, the Sir and Gihon, on the banks of which, in the centre of Asia, the same fact is repeated in the royal residences of Samarkand and Bokhara.

The peninsula of Arabia projects from the highland of Western Asia, and may be considered as an entirely independent member. It is divided from the mountain-system of the Taurus by the lowland of Syria, which extends to the south-west of the Euphrates. On the south of this lowland the country again rises, and assumes quite a different character. This constitutes the highland of Arabia, which, in the form of a trapezium, contains the table-land of Nejd, the native country of the Wahhabites, a cold country, connected on the south with the elevated Yemen or Arabia Felix, which descends in terraces towards two seas. Its descent towards the west is steep, and formed by parallel mountain-ridges, with well-sheltered valleys between them, in which the towns of Mecca and Medina are situated. This part of the country is better known than the steep descent towards the south between Aden and Hadramaut, and thence to Muscat. The eastern declivity, which appears to descend with a gentle slope towards the Gulf of Persia, and surrounds the islands of Bahrein, noted for their pearl-banks, is no better known. The cold Nejd is the native country of the Arabian horse and the Arabian camel. On the terraces bordering it on the west the mild climate allows plantations of coffee, and the low and narrow coast, with its sultry air, produces, like the Gurmsir of Persia, the date-palm, which will not grow either on the table-land of Nejd or on that of Iran.

Arabia exhibits characteristics entirely different from those which mark the other parts of Asia. As already indicated by its geographical position, it forms a point of contact between Asia and Africa, and participates in the distinguishing qualities of both. The Chinese, confined to their own territory by the nature of the country which surrounds them, and separated from the remainder of the world by seas and mountains, feel no inducement to abandon their native land; they never concerned themselves about other nations, and they excluded foreigners from their country. The Hindu, placed in a country in which all the advantages with which Asia is gifted by nature are concentrated, early acquired a high degree of civilisation; but he has never passed the boundary of his native land, and, with equal indifference, has received all foreigners who have entered the country as conquerors, merchants, colonists, or missionaries. The Arabs, on the other hand, whose native country spreads out between two great divisions of the globe, have assimilated themselves to both, and at one time extended their dominion to the most western point of Africa as well as to that of Asia. The greater number of Arabs are dispersed without the peninsula, which is the native country of their nation, but which prepared them for the endurance of every climate. Its sultry coasts resemble the arid deserts of Libya; the moderate climate of the terraces approaches that of Deccan, Iran, and Catalonia; and the cold Nejd differs little in its physical character from the highland of Central Asia, on which we find the Arabs dispersed to a great distance from their native country.

We now pass to the third great division which the surface of Asia exhibits, the Lowlands, which are situated without the highland regions and the valleys formed in the extensive terraces around them. These latter, according to a rough estimate, may occupy a surface of about 4,300,000 square miles, or more than one-fifth of the whole extent of Asia, and consequently there remain about 6,000,000 square miles for the surface of the lowlands. These lowlands lie around the more elevated parts of the interior, and occupy countries of great extent along the sea, so that the lower course of the great river-systems traverses these plains with many windings and with very little fall. In these plains the great empires, by which the history of this division of the globe is so distinguished, have attained their greatest power, and continued for the longest period. The extensive low plains are six in number; they are different in their natural character, and in no way connected with one another.

The first is the great Chinese Lowland on the eastern shore of Asia, along the Pacific Ocean, beginning at Peking and extending along the Yellow Sea or Whang-Hay, southward past Nanking to the province of Kiang-si. Lying south of the 40th parallel, and extending nearly to the tropic, it enjoys a temperate climate, and exhibits the most advanced state of agriculture, the most extensive system of canals, the most active internal navigation, and is the richest and most populous granary in the whole world.

The second is the Indo-Chinese Lowland, which, lying between the Gulf of Tonkin and that of Siam, extends from the 10th degree of north latitude to the tropic, and comprehends the kingdoms of Camboja and Siam; its northern boundary, however, is not yet ascertained. It unites the advantage of being situated south of the tropic with that of being plentifully provided with water, and it is therefore exceedingly well adapted to the culture of rice. A part of the surface is covered with stagnant water and lakes.

The third is the Lowland of Hindustan, or Siud, which comprehends the northern part of India, and extends in the form of a triangle between the Gulf of Bengal and that of Guzerat. It is bounded by the two river-systems of the Gauges and Indus, and overtopped by three table-lands, those of Tibet, of Iran, and of the Deccan. Being situated out of the torrid zone, but near the tropic, it enjoys all the advantages of a tropical climate, without its disadvantages. None of the lowlands equal it in the richness and variety of the country which surrounds it. It is as populous as the Lowland of China, which it far exceeds in the number of different nations inhabiting it, and that of royal residences (Delhi, Agra, Benares, Calcutta, Lahore, Multan, Ajmeer, &c.), nearly all of which are placed near its centre. In the western half of this region, a narrow tract of land is covered with moveable sand, not unlike the Sahara.

The fourth Lowland is that of Syria and Arabia, which on its eastern extremity is bounded by the innermost corner of the Gulf of Persia, on the west by the mountains of Syria, on the south by the table-land of Nejd, and on the north and north-east by that of Iran. Only its northern half is watered by the river-system of the Euphrates and Tigris, while its southern half presents an arid and desert aspect.

The first two lowlands may be called *Maritime*, and the second two *Continental*. The Chinese and Indo-Chinese Lowlands are, for the most part, surrounded by seas, exposed to the continual action of high tides, and frequently drenched by the moisture brought by the winds from the east and south-east. The lowland of Hindustan, and that of Syria and Arabia, on the contrary, border only on narrow bays, and on the south and on the north are overtopped by high table-lands which have always a dry atmosphere. Hence it follows that in the last-mentioned lowlands dryness of the air prevails, as moisture in the former, and that they must be distinguished by all the consequent variations of vegetation and animal life. In China and the peninsula beyond the Ganges the inhabitants approach in their manners and customs the inhabitants of islands; but in India and Babylonia they are like the inhabitants of inland countries. The southern half of the lowland of Syria and Arabia, indeed, resembles the African Sahara, and is therefore called the Arabian Desert. Though situated without the tropic it displays a tropical nature; and, divested of the peculiarities by which Asia is distinguished, it partakes more than any other country of the features which characterise Africa, its arid climate and its natural productions.

The fifth is the Northern or Siberian Lowland, which occupies more than half the area of all the lowlands of Asia taken together, and extends along the Polar Sea from the Ural Mountains to the Pacific Ocean. Though traversed by extensive river-systems, it derives little advantage from this circumstance, as it contains only in the southern third of its surface (between 50° and 60° N. lat.) habitable and cultivable land; this part has been colonised by European settlements, the most numerous in Asia. The northern and most extensive district, lying either within the polar circle or near it, is beyond the boundary of the habitable world, and belongs rather to the polar region than to that division of the globe which has received the name of the East. The Lowland of Siberia, owing to its slight elevation above the sea, has a great influence on the physical character and climate of the whole continent of Asia.

The sixth Lowland is that of Bucharia, which is only watered by the Caspian and the Lake of Aral. Its greatest extent is in the direction of the system of the double rivers which traverse it. Beginning at the innermost angle, formed by the western edge of the table-land of Tibet and the northern edge of that of Iran, this lowland extends to the north-west, over the countries adjacent to both banks of the Volga, up to the river Don and the boundary of Europe, between the mountain-ranges of the Ural and of the Caucasus. Thus it may be considered as an intermediate form which connects Central Asia with Europe. Its extensive plains, which are scantily watered, are a kind of mean between sandy deserts and agricultural soil, and their surface is mainly formed of gravel. They are what are commonly called *steppes*—plains covered with grass, and without wood, in which are scattered a few tracts of cultivable ground. Such a country is the natural abode of nomadic tribes. Deprived of all natural riches, except in a few places where agriculture is carried on by artificial irrigation and immense labour, and rather characterised by a total want of natural capabilities, this lowland is very remarkable in an historical point of view. Being placed in the centre of very extensive countries, and surrounded by different nations, it has been involved in all the great historical events: it was here that the conquerors, such as Cyrus and Alexander, who proceeded from the west, and those of China who came from the east, the Bactrians, Ghaznavides, and Great Mongols, who advanced from the south, and the Russians from the north, found a stop to their progress.

The natural poverty of this country, and the comparative richness of those surrounding it, together with the want of fixed abodes, and the various political changes of the neighbouring countries, have frequently induced the inhabitants to pass its natural boundaries. The inhabitants of this lowland have been, through all centuries, nations of change and migration, who, since the times of the Scythians, Goths, Alans, Uzes, Comanes, Petsheniges, Turks, and Tartars, till nearly our own times, have inundated Europe from time to time, and changed its face by destroying, impairing, or retarding civilisation. Their own country, meanwhile, was not exempt from great changes, both as respects the nations which inhabited as well as the dynasties which governed it; and at present it exercises a great influence on political events by its geographical position and the obstacles which it opposes to the progress of the three great empires of Asia—the Chinese on the east, the Russians on the north, and the British on the south.

In thus bringing the whole surface of Asia into one view, we find it composed of *Six* Lowlands, different in their nature, and independent of one another; they spread below and around Two Highlands occupying an immense space, which themselves are surrounded by seven or eight less extensive and entirely separate mountain or table-land regions; that of southern China, the Peninsula without the Ganges, Deccan, Arabia, Syria, Armenia, and the Isthmus of the Caucasus,—all of which exhibit peculiar features, by which the countries surrounding them are characterised, in the same manner as the great Highlands characterise the whole continent. If we add to their number ten or twelve intermediate formations, constituting the terrace-regions, we have nearly a score and a half of great natural divisions on the surface of Asia, every one of which has a distinct character.

Minerals. Precious Stones.—Rock-crystal in the greatest variety, amethysts in the Altai, Himalaya, and Ural mountains; carnelians, agates, in western India, and in the Gobi desert; casholongs and onyxes, in Mongolia; yu, or oriental jade, in Turkistan; different kinds of jasper, in the Altai mountains; pearl-stone is found on the shores of the Gulf of Okhotzk; beryl, in the mountains near the Lake of Baikal; lapis lazuli, in the same mountains, as well as in the Hindu Coosh, and on the banks of the Oxus; topazes, in the Ural mountains; circony, chrysoberyl, sapphires, on the island of Ceylon; rubies, in Ceylon and in Badakshan; turquoises, in Khorasan; diamonds, in Deccan, Borneo, and the Ural mountains.

Volcanic products are met with on the Sunda Islands, in Japan, and Kamtchatka, in the neighbourhood of Tauris, and many parts of the highland of Armenia, and in western Anatolia.

Steatite, asbestos, and coalin, or the finest porcelain-clay, are found in China and Japan; talc in Siberia; coals in northern China, and different parts of Hindustan; rock-salt in the Ural mountains, northern China, the Penj-ab, Ajmeer, Yemen, Anatolia; salt in the salt-seas of the steppes, and sometimes on the surface of the ground; sal-ammoniac in the volcanic steppes of Central Asia, not far from the river Ili; nitre in Hindustan; borax, or tinqual, in Tibet; petroleum, near Baku, on the shores of the Caspian Sea, on the Euphrates at Hit, and other places, and at Kerkook east of the Tigris; asphaltum on the Dead Sea, in Palestine. Hot springs are very abundant in the snow-covered ranges of the Himalaya range, especially along the upper branches of the Ganges, and in the north-west part of Anatolia.

Metals.—Gold in Japan, Tibet, Yun-nan, Cochin China, Tonkin, Siam, Malacca, Borneo, Asam, Ava, and in the Ural mountains; many rivers bring down gold in their sands; silver in China, Da-uria, Japan, Armenia, Anatolia, and the Ural mountains; tin in Malacca, Anam, the Sunda Islands, and the empire of the Birmans; mercury in China, Japan, and Tibet; copper in the Ural and Altai mountains, Japan, China, Nepaul, Azerbijan, Armenia, and Mount Taurus; malachite in China and Siberia; iron from the Ural mountains, through Central Asia as far as the peninsula beyond the Ganges, as well as in Japan and Persia; lead in Da-uria, China, Siam, Japan, Georgia, and Armenia.

Extensive layers of fossil shell-fish are found on the highest table-lands of Tibet, from 16,000 to 18,000 feet above the sea, and the strata of the tertiary formation in Siberia are full of animal remains, as the elephant, rhinoceros, &c.

V. *The Man of Asia.*—As Asia is the most extensive of the great divisions of the globe, it is likewise far superior to the rest, if we consider the number of its inhabitants, their variety, and historical fame. Upwards of 400 millions are dispersed over the surface; consequently, twice as many as the inhabitants of Europe, and more than eight times that of the inhabitants of America, which continent in its area approaches nearer to Asia than any other.

Many questions may be raised respecting the population of Asia. It may be asked, whether or not that continent was ever more populous than at present? How many of its inhabitants were destroyed during the wars of the Mongols? How far has its population decreased, owing to the despotism exercised by the Turks in the western countries? How many nations have already become entirely extinct, or exist in very small numbers, as the Philistines, the Phœnicians, the Babylonians, the Parsees, the Lydians, the Bactrians, the Medes, the Sogdiani? More than forty nations were destroyed in the middle age by the Mongol wars, according to the statements of the annalists of that time; and some have become nearly extinct in our times, as the Doms in the Himalaya range, the Miao-tse in southern China, the Tata in northern China, the tribes of the Tunguses, eastern Turks, and Samoiedes in the mountains of Sayansk, and others in Mount Caucasus. These questions cannot be answered with any degree of probability.

But we may safely assert that the number of foreigners who have settled in Asia is extremely small, compared with the numbers who have left it to inhabit other divisions of the globe. We may estimate the number of Europeans in India at a hundred thousand; those settled in Siberia, the descendants of the Cossacks included, at two millions, which probably exceeds the truth; and the Greeks of European origin, inhabiting Anatolia, at one million and a half, or even two, though these Greeks have long ago been changed into Asiatics. Few settlers have gone to Asia from Africa and America, and still fewer from Australia. The Egyptians never settled in Asia, but the Arabs settled in Egypt. Negro slaves are dispersed over Persia, Arabia, and Hindustan, but they are few in number. Abyssinians indeed, from time to time, entered Asia in crowds; they came, however, not as a nation, but as mercenary soldiers in the service of Arab emirs or of Indian rajas; and their descendants, like those of the Portuguese, have entirely merged in the native population. America has not much increased the population of Asia: even the Tchuktches, on the most north-eastern peninsula of Asia, who belong to the family of the Esquimaux, as the affinity of their language induces us to suppose, are perhaps aborigines of Asia.

Thus we find Asia, like all other large divisions of the globe at the present day, inhabited by aborigines and foreigners, the two great divisions of mankind in an historical point of view. Asia has been the principal country from which emigration has spread, so far as the history of man is known: it has been the parent of nations who have left its bosom, to form, in other countries, a new character of social life.

We may consider the inhabitants of Asia according to the physical division of three principal races, the white (or Caucasian), the yellow (or Mongolian), and the black (or Ethiopian), and three intermediate races, namely, the dark brown (or Malay), the negro-like (or Papuas, also called Austral negroes), and the copper-coloured (or American). They cannot always be exactly distinguished by the form of the skull, the hair, or the complexion of their skin. The three principal races border on one another in the elevated valleys of Central Asia, where the skulls of the Cashmerians show their Caucasian origin; whilst those of the Bhots, or inhabitants of Bootan and Tibet, are Mongolic, and between them the skull of the negroes is found, if it be true, according to the observations of Traill, that the nearly extinct slave-tribe of the Doms, in the valleys of Kamaoon, belongs to the dark-coloured and woolly-haired race of the negroes. But perhaps these Doms are only the most northern representatives of the Austral negroes, which are dispersed through the peninsula beyond the Ganges and the Sunda Islands, as well as in the adjacent islands of Australia as far as New Guinea, and which, since they have become known, have been constantly called Papuas. By Cuvier they are enumerated among those tribes which have separated from the true negroes. The Malay race in their neighbourhood inhabits the island of Sumatra and the peninsula of Malacca. All the races enumerated are found in Asia, except the copper-coloured races of America; the Caucasian prevails from the centre of the continent towards the west and north-west, and the Mongolian likewise from the centre towards the east and north-east.

We shall not pursue further that division of the nations of Asia which is derived from the history and the genealogy of the different tribes, nor that which depends on their physical character, but rather follow that which results from the spoken languages. But we must also observe that these three points do not always exactly coincide, and that many difficulties are still to be solved by further investigation. Still we think that the division which rests on the internal structure of the languages is, as far as the investigation of this matter has been carried, the most certain and safest, and that the nearer or remoter kindred which exists between different nations may in some measure be indicated by it. Adopting, therefore, the division of nations according to their languages, the following groups may be enumerated in Asia.

The first in the order of historical importance is the Semitic nations. These are the Syrians and the Chaldæans, or the ancient Aramæans; the Phœnicians—though the number of the pure and unmixed families belonging to this people may be very small—probably still exist in their ancient country, especially near the Libanus; the Jews, who from Palestine have been dispersed over all Asia as far as the coast of Malabar and the northern provinces of China; the Arabs, who are the most numerous of this race and less mixed with other nations, are dispersed through all Western Asia as far as the mouths of the Indus and the sources of the Oxus.

It has been recently demonstrated that the languages spoken by the aborigines of the countries on the Ganges and Indus, and even the peninsula within the Ganges, as well as those of Persia, and farther to the north-west the nations of Europe, as the Slaves, and those of German origin in the west and centre of Europe, display a great affinity in the grammatical structure as well as in the roots of numerous words. To this group belong the inhabitants of India, who speak the numerous dialects or languages derived from or connected with the Sanscrit. This remark applies also to the nations of Iran, as the Persians, perhaps the Beluches, Gipsies, and even the Bucharians, &c., though many of them have been mixed with other nations of Turkish, Mongolic, or Arabic origin. Besides these we must enumerate the Ossetes (or Iron, the descendants of the Alans) in Mount Caucasus, and some nations of Slavish origin inhabiting Asia, as well as the greater part of the inhabitants of Europe.

The Armenians either belong to this group, or constitute a separate one. But the researches on the grammatical structure of their language have not yet been carried far enough to determine this point with any degree of certainty. From the mountainous table-land which is their native country they have been dispersed through the central and southern countries of Asia as far as China, and may in this respect be compared with the Arabs. The Arabs indeed are also met with in Africa, but the Armenians are found in Europe even as far as the middle course of the Danube, but everywhere only as pacific settlers.

The Georgians form a separate group, inhabiting the Caucasian isthmus, between Mount Caucasus and the river Kur; besides the proper Georgians in Imerethi, three branches belong to it, the Mingrelians, Suanes, and the Lazes: the last occupy the eastern shores of the Black Sea.

The nations which inhabit the Caucasus as aborigines are divided into three principal tribes, the eastern Caucasians or Lesghiens, the middle Caucasians or Mitsdjekhes, also called Chekhes, and the western Caucasians or the Chercassians and Abassis, who are again divided into different smaller tribes, as is usual among mountaineers.

The Turkish nations form one of the most extensive groups. The greater number of them occupy Central Asia, beginning on the east with the table-land of the Gobi of Hami, and the countries about the lake of Lop, and extending to the west through Turkistan, where they are called eastern Turks. Farther to the west, in the low land about the lake of Aral, they receive the name of Turkomans; and still farther in Asia Minor, and in the Ottoman empire of Europe, they are named Turks or Osmanlis. These nations may be considered as the principal stock of this great division, but its branches extend to the north and to the south between other nations of Mongolic or Persian origin; and although the physical structure of their body may sometimes display remarkable differences, these nations, from Pekin to Constantinople, speak dialects (called by us the Turk-Tartarian dialects) which are understood by all of them. The Turkmans or Truchmenes, a pastoral nation, divided into innumerable tribes, form the principal stock of the inhabitants of northern Persia, on the west side of the Caspian Sea, in Shirwan, Asia Minor, Khiva, and Bucharia, where a tribe of the Eastern Turks, who are the original inhabitants of the centre of the table-land of eastern Asia (in Khotan, Yarkand, Turfan, Kashghar), under the name of the Uzbeks, have obtained the dominion of Turkistan and Bucharia. The Kirghises were formerly, under the name of eastern Kerkis (Kazak or Hakas), the neighbours of the Mongols, and inhabited the upper course of the Yenesei and the Altai mountains, but they have been obliged to emigrate towards the west, where they occupy at present as pastoral tribes the steppes, which have received from them the name of the *Steppes of the great, middle, and little Kirghis tribes.* The Bashkires are settled in the southern branches of the Ural mountains. Besides these, many other nations and tribes, which are commonly called Turkish Tartarian, or Tartarian Siberian, or only Tartarian tribes, speak Turkish dialects, though some of them have been mixed with Mongolic tribes. Among these may be enumerated the Nogai on the banks of the Kuban and Kuma near Mount Caucasus, who partly occupy also the Crimea in Europe; the Kumuks in the same country; the Karakalpaks near the lake of Aral; many tribes commonly called Tartars settled in Siberia, between Tobolsk and Yeneseisk; the Barabinzes who wander about on the steppe of Baraba, and the Kusnes on the river Tom; the Katshinzes, Beltyres, and Biruses in the mountains of Sayansk and the banks of the Upper Yenesei; the Telutes, about the lake of Teletzkoi; and lastly the Yakutes, who form the extreme link of the Turkish nations towards the north-east, and occupy the banks of the middle course of the river Lena about Yakutzk, and even extend to the mouth of that river.

The nations of Samoiedic origin occupy two different countries distant from one another. The southern division inhabits the banks of the Upper Yenesei and the mountains of Sayansk, where the remnants of the formerly very numerous Samoiedic nations have remained in that country, of which they were the aborigines; they are divided into four tribes, the Uriankhai (or Soyot of the Chinese), the Motores, the Koibales, and the Karakashes. The northern division is settled along the Polar Sea to the north of the Lower Tunguska, and extends from the mouth of the river Yenessi to that of the Oby, and farther west to the northern part of the Ural mountains, and even in Europe as far as the White Sea; so that these tribes, which properly are called Samoiedes, are separated from the other above-named branches of their family by Turkish tribes and the Yenesians, who inhabit the country between them.

The Yenesians are a small isolated tribe, whose abode is confined to the valley of the river Yenesei in its middle course between Abakansk and Turukhansk, and who formerly, like their neighbours the Samoiedes, inhabited the mountains of Sayansk and of the Altai range.

The nations of Finnic origin belong less to Asia than to Europe, where they are dispersed from the western declivity of the Ural mountains through the valley of the Upper Volga, as far as Lapland. Two tribes of this origin are found in Asia, the Vogules and the Ostiakes of the Oby river, who may be comprehended under the general name of Eastern Finns; they occupy the country extending from the Ural mountains eastward to the middle course of the Oby, so that they separate the northern Samoiedes from the Turkish tribes which inhabit the western districts of Siberia farther to the south.

The Mongol stock of nations branches out into three great divisions—the proper Mongols, the Buriates, and the Olöth or Calmucks. The proper Mongols are settled on the southern side of the desert of Gobi as tribes charged with the defence of the boundary of the Chinese empire, and there they are called Tsakhar, whilst other tribes, comprehended under the name of Khalka, occupy the northern side of the Gobi. Other tribes farther to the south-west, towards Tangut and Tibet, are known under the general name of Sharaigol or Khor among the inhabitants of Tibet, also Sokbo, *i. e.* pastoral tribes. The greater part of them depend on the court of Peking, and are distributed under different banners: a small number however are under the dominion of the Russians, in the countries surrounding the lake of Baikal, which likewise is inhabited by the second great branch of the Mongol nations, the Buriates, who seem to have kept possession of their original native country. The third great branch of this extensive stock, the Olöth, who are dispersed over all the countries between the lake of Khukhu-Nor and the banks of the Volga, are again divided into four branches, and are known in Europe by the name of Calmucks (Kalmakh), which was given to them by the Russians. The most extensive of these branches consisted of the Zungares, who were partly destroyed (1757) in their war with the Chinese, and their original country on the banks of the river Ili and of the lake of Balkash, on the south-west of the Altai mountains, was afterwards occupied by another branch of the Olöth, the Turgut, whose tribes had till then been settled on the banks of the Volga to the north of Astrakhan. But some of their tribes remained on the banks of the Volga, and others are dispersed through Central Asia, as far as the lake of Khukhu-Nor. The third principal branch of the Olöth, the Khoshod, likewise inhabits the countries surrounding the lake of Khukhu-Nor or the Blue Lake. The fourth great branch of these Mongols, the Turbet, are settled still farther to the east, on the upper course of the Hoang-Ho.

The Tungooses form one of the most extensive families of nations in the north-eastern countries of Asia, occupying all that part which lies to the east of the northern Samoiedes on the Polar Sea, of the Yenesians, of the Uriankhai on the upper course of the Yenesei river and on the mountains of Sayansk, and to the north-east of the Mongolic tribes. From the upper course of both Tunguskas, they extend to the Polar Sea and the river Olenek, and thence over the middle course of the river Lena, and from the eastern extremity of the lake of Baikal over the river Witim as far as the shores of the Gulf of Okhotzk, where they are called Lamutes, or inhabitants of the shore. Towards the south-east they occupy the countries lying on the middle course of the Amur or Saghalien Oola and the banks of the Sungari Oola to the boundary of the peninsula of Corea. But neither at the mouth of the Amur, nor farther to the south, do the Tungooses extend to the shores of the sea, the latter being inhabited by the Aino, a tribe not belonging to this stock. The branches of the Tungooses are very numerous, but in modern times none of them has rendered itself conspicuous except the tribe called Mantchoo, which conquered China in the middle of the seventeenth century, and still governs that country. These Mantchoo Tungooses are dispersed over all the provinces of the Chinese empire, where they constitute the military nobility.

The north-eastern part of Asia from the mouth of the Lena river to the sea between Asia and America is occupied by three nations, who speak quite different languages, though they live near one another in a country of comparatively no great extent. These nations are the Yookaghires, on both banks of the Indighirka; the Koriakes, from the Kowyma river to the Anadyr river, and round the Gulf of Penshinsk; and the Tchuktches, who inhabit the most north-eastern extremity of Asia. Between the latter and the Esquimaux tribes in North America such an affinity exists, as to language, that they have obtained the name of Polar Americans. The Kamtchadales also form a separate group of nations, and speak a peculiar language.

The tribes which are comprehended under the name of Kuriles, or Aino, live at the mouth of the Amur river and on the coast which extends to the south as far as Corea; they inhabit likewise the islands along this coast and extending southward to Yesso on the north of Japan, and northward under the name of Kuriles to the southern cape of Kamtchatka. Though these fishing tribes are dispersed over a very extensive coast, they have a common language.

The Japanese speak a language peculiar to themselves; and though their civilization exhibits a striking similarity to that of the Chinese, it seems to have risen entirely from the national character of the Japanese. Both their language and their civilization are confined to their islands, with the exception of the islands of Liew-kiew, whose inhabitants belong to the same stock, but their language is said to be different.

The Coreans, or inhabitants of the peninsula of Corea, constitute likewise a separate nation, which many centuries ago inhabited the mountain-range that forms the northern boundary of the peninsula, and then were called Sitnpi; at present they are confined to the peninsula itself by their neighbours, the Mantchoo, who occupy the country farther north.

The Chinese constitute the most numerous and most civilized nation of Eastern Asia, forming by far the greatest part of the population of China itself, and possessing a very rich literature. They are also dispersed over the other countries subject to the court of Péking, and even beyond these boundaries, where, however, they have only settled in more modern times. They have likewise formed many settlements on the island of Formosa, as well as on the Sunda islands, in Siam, Malacca, and in Ceylon.

The Tibetans, or inhabitants of Tibet, who call themselves Bhot or Bhota, constitute a very numerous group of tribes, which are far dispersed over the table-lands of Eastern Asia, to the north of the Himalaya mountains, but they are very little known.

The nations which occupy the peninsula without the Ganges, as the inhabitants of Anam, that is of Tonkin and Cochin China, those of Siam, Pegu, and Ava, or the Birmans, are still very imperfectly known; their languages, history, and peculiar manners and character have only of late years become an object of inquiry. The Malays are better known; they perhaps once occupied the mountain-region of the peninsula of Malacca, but at present they are only settled on the Sunda islands, and in the southern extremity of that peninsula. They speak a distinct and cultivated idiom, which is far diffused, on the west as far as Madagascar, and on the east over the islands of Sunda and the Philippines, and even to the most eastern island groups of the Pacific Ocean.

These are the principal groups of nations inhabiting Asia; but in the inland countries of that continent there still exist some feeble remains of ancient nations which have not yet been subjected to a close investigation. Such are the Miao-tse in southern China, the Goands in Deccan, the Lolos and Carayn on the peninsula beyond the Ganges, the Siapush in the Hindu-Coosh mountains, and some others.

VII. *Political divisions.*—At present there are only six empires of great power and importance, which govern or control the whole continent. The others, of less extent and importance, are either dependent on these six, or at least subordinate, and rendered of less political weight, from being separated from each other by the six. The east of Asia is occupied by the Chinese empire, the north by Russia, and the south by the British dominions; the other states lying between them, as the empire of the Birmans, and the kingdoms of Siam and Cochin China, are only of the second or third rank. The west of Asia comprehends Persia, which is now divided into two states, Afghanistan (eastern Persia), and Persia Proper (western Persia), Turkey, and Arabia.

Asia, according to an approximate estimate, contains from nineteen to nineteen and a half millions of square miles, including the islands, which occupy nearly one million and a half of square miles, or more than one-third of the surface of Europe. If we further subtract the extensive lakes, as the Caspian Sea and the lakes of Aral, Baikal, and Balkash, which together occupy a surface of upwards of 200,000 miles, we find that the whole surface of continental Asia is reduced to about seventeen millions and a half, which may be supposed to be inhabited by from 450 to 500 millions of souls. Europe, which, according to a rough estimate, contains upwards of three millions of square miles, is inhabited by about 180 millions of souls; therefore, though Europe contains only about one-sixth of the surface of Asia, its population is equal to more than one-third of that of the latter continent. But political importance depends on wealth and population, and not on the extent of countries. Large tracts, which are possessed by the two greatest empires of Asia, are very thinly inhabited, whilst other portions of that continent have an excessively dense population.

The *Russian empire* extends through two of the great divisions of the globe, from the Atlantic Sea to the Pacific Ocean, and contains about 7,100,000 square miles, with a population of about 55 millions; more than two-thirds of its surface, namely, 5,800,000 square miles, and only one-fifth of its population, namely 11 millions, belong to Asia. In this account are included the ancient Tartarian kingdoms of Kasan and Astrakhan, which by some geographers are assigned to Europe, and the wandering tribes of the Kirghises, which are estimated at 300,000, and the mountaineers of the Caucasus, at about half a million. Besides the two great Tartarian kingdoms of Kasan (the ancient Bulgar), and Astrakhan (the ancient Kaptshak), the Russian empire in Asia contains Siberia, the eastern boundary of which is not exactly fixed; the Caucasian provinces, three in number, which lie on both sides of Mount Caucasus and constitute a military government; the steppes of the Kirghises, a protected country; and the Siberian islands and peninsulas in the Polar region of the Pacific Ocean, as far as the north-western shores of North America. Up to the year 1822 Siberia was only under military governors: but at that time it was placed under a civil government, and divided into two great provinces or general governments, namely, Western Siberia, which comprehends the governments of Tobolsk, Omsk, and Tomsk; and Eastern Siberia, to which belong the governments of Irkutsk, Yeneseisk, and Yakutsk, with the two maritime governments of Okhotzk and Kamtchatka. Since this change took place, the settlement of European colonies through Northern Asia, to the east of the Ural mountains, has considerably increased.

The *Chinese empire* comprehends more than one-fourth of the surface of Asia, or upwards of five millions of square miles, with a population amounting at least to 235 millions; but if we may rely on the population list published by the court of Peking in the great imperial geography, the whole population of the empire in 1813 amounted to 361,763,110 individuals. Its extent is greater than that of all Europe by nearly two millions of square miles, and its population is nearly double that of Europe, if we follow the statement of the Chinese government, or is equal to it and the whole population of the Russian empire in addition, if we follow the more moderate supposition. The subjects of the Russian emperor in Asia do not exceed 1-10th of the whole population of that continent, but those who obey the Emperor of China may be considered as constituting one-half of all its inhabitants. Though, therefore, both these empires are nearly equal in extent, the amount of their population is widely different, and the Russian empire occupies a very subordinate political relation. China occupies the first place among the political bodies of Asia, and in this position it has maintained itself for two thousand years, whilst the power of Russia does not yet reckon two hundred. But every part of the immense surface of the Chinese empire is not of equal importance. In the Russian empire the Ural mountains are the natural boundary of its body, whose head is placed in Europe, but whose limbs extend through the whole north of Asia as far as Kamtchatka, and are a mere appendage. Nearly the same circumstances exist in China. The head of the Chinese empire is at a short distance from the Pacific Ocean, on the eastern side of the table-lands of the Gobi and of Tibet, in the rich and fertile and densely-populated lowlands of China, or in that part which is properly called China (Chin). But all the other provinces to the north of the Great Wall and to the west of the western extremity must be considered as a mere appendage to the empire. By some event this union might be dissolved, and the exterior limbs separated, which has actually taken place more than once on the change of the reigning dynasties; but such events have not injured the proper body of the empire, which has rather attained a greater concentration of its internal forces by this separation. These external provinces or intermediate countries are only of importance to the government by impeding foreigners (*i. e.* barbarians, called *fan*) from entering into immediate intercourse with the natives of the Celestial Empire, and as a barrier against the more western empires and nations (Si-yu, Si-fan). As provinces of inferior political importance, but forming an impenetrable barrier to intercourse with the neighbouring nations, we must consider all the countries extending over the Chinese table-lands, the boundaries of which are nearly coincident with those of the highlands of Eastern Asia. The Chinese empire accordingly comprehends five great divisions of countries, besides some of less extent; and with respect to their political relation towards the government, they may be divided into three classes. The first class comprehends China Proper alone, the permanent seat of government and the residence of the sovereigns, either in the southern capital (Nan-king), or in the northern (Pe-king), as at present. The second class is composed of three great kingdoms, subject to the court of Peking,—Mantchooria on the north-east, the native country of the present dynasty, which is of Tungoose origin; Mongolia on the north and north-west, or the native country of all Mongol tribes; and Hami, Turfan, Khotan, Yarkend, Kashghar, and Chinese Turkistan, which are properly the native countries of the eastern Turkish Tartarian tribes. The third class is composed of the protected countries, which have only in part received Chinese institutions, such as Tibet, Bootan, Undes, Ladakh, and other small countries on the table-lands towards the south and west; and on the east the peninsula of Corea and the island of Formosa, as well as the Liew-kiew islands.

The *British dominions in the East Indies* are, for the most part, in India, or the peninsula within the Ganges, a country which is little less than half the surface of Europe, and has a population inferior to that of Europe by only about 50 millions, so that, though only half as large as Europe, India has nearly three-fourths of its inhabitants. If the whole population of the Russian empire in Asia were uniformly and equally distributed over the country, every square mile would be inhabited only by two individuals: the same calculation, applied to the whole Chinese empire, would assign to every square mile somewhat more than forty-six persons; but in India, more than double that number. This circumstance is of great moment in the political balance in favour of the British dominion, especially as their possessions comprehend those parts of the peninsula which are the most densely peopled, and in which agriculture and civilization have made most progress; whilst the dominion of the Chinese extends over many countries, inhabited by wandering nomadic tribes, still sunk in barbarism. If we consider only the immediate possessions of the British in India, excluding even the island of Ceylon, we find that they have a population of from seventy to eighty millions on a surface little exceeding 650,000 square miles; but their political importance can only be duly estimated if we consider how this population is concentrated, and how easily accessible these countries are by sea and the great navigable rivers. To this we may add, the security which the peninsula derives from being in the hands of a nation possessing the most powerful navy in the world. But the British influence is not limited to the immediate possession of the three presidencies of Calcutta, Madras, and Bombay; it extends over a great number of dependent and protected sovereigns, who possess a territory as large as that of the East India Company, and, taken together, probably not less than forty millions of subjects. The whole number of such rajas and nawaubs exceeds forty, and some of them possess countries of considerable extent, as the monarchs of Oude, of Nagpoor, Mysore, Satarah, Travancore, and the Nizam of Golconda. To these we must add the island of Ceylon, which is of the greatest importance as a convenient station for the navy. The countries which are still entirely independent of British influence are situated on the extreme boundary of India, as the government of the Sikhs, and the alpine state of Nepaul, both on the northern limits of the British possessions. The territories of Runjeet Singh extend from the Sutledge to the Indus, and from Cashmere to Mooltan, comprising the whole of the countries of the Penj-ab; under him the Sikh nation changed from a republic to an absolute monarchy. One sovereign only at present exists within the boundary of these territories who may still lay claim to independence, the Maharaja Sindiah, a Mahratta prince, whose possessions, surrounded by the British dominions, extend to the north of the table-land of Deccan. But all these independent states are subordinate as to power and influence; they comprehend less than 200,000 square miles of surface, with a population short of ten millions. By the peace concluded at the termination of the Burmese war (1826), the possessions of the Company have been increased, by the acquisition of Aracan, with upwards of 20,000 square miles, and a population of about 200,000 souls, and of the more southern maritime provinces of Ye, Tavoy, and Mergui, with a surface of more than 30,000 square miles, but a very scanty population, not exceeding 35,000 persons. The possession of the latter country is important, by securing to the British nation the dominion over the Gulf of Bengal and the Straits of the Sunda islands.

The *Portuguese*, whose settlements were formerly so numerous on the coasts and in the islands of the Indian Sea, have preserved Goa, with a few adjacent places, Daman, and a small portion of the peninsula of Guzerat, with the fortress of Diu, a place important for the construction of vessels. These possessions, together with the island of Macao, in the bay of Canton in China, and some small districts of the island of Timor, are supposed to contain about 30,000 square miles, and half a million of inhabitants.

The *French* settlements in Asia are confined to India, and comprehend the government of Pondicherry, with the towns of Pondicherry and Carical, on the coast of Coromandel, and a few other places, among which Chandernagor, in Bengal, and Mahé, on the coast of Malabar, are the most important. The whole area possessed by the French does not exceed 450 square miles, with a population of 200,000 individuals.

The *Danish* colonies consist only of the town of Tranquebar, and its territory, on the coast of Coromandel, a place remarkable for a missionary establishment. The Danes have also a small settlement at Serampore, on the Ganges.

The settlements of the *Dutch* were formerly dispersed over the coasts of both peninsulas of India, as well as over the adjacent islands; but they were obliged to abandon them by degrees; and since 1821 they have been limited to the islands. Their power begins on the west with Sumatra, and extends over Java, as far as the Moluccas, or Spice Islands. These possessions comprehend a surface of about 86,000 square miles, and a population of perhaps five millions. They are divided into seven governments: Batavia, with the seat of the general governor, and Sumatra, Amboyna, Banda, Ternate, Macassar, and Timor.

These are the great empires and the colonies of the European nations, among which the north, east, south, and centre of Asia is divided; but besides these, there still exist some sovereignties, which, though not powerful enough to influence materially the political affairs of that continent, possess considerable importance in their immediate neighbourhood. Such are the empire of Ava or Birma, with a surface of perhaps more than 250,000 square miles, and a population of fourteen millions; the kingdom of Asam, with about a million of inhabitants, whose raja, however, is dependent on the British; and in its neighbourhood, a few small states in the mountains, as that of the Garrows, Munipore, Cashar, &c.; farther, the kingdoms of Siam and Anam, which latter comprehends the ancient sovereignties of Camboja, Cochin China, and Tonkin; some petty but independent princes on the peninsula of Malacca, on which the British only possess the town and harbour of Singapore, with its annexed territory, and about 30,000 inhabitants; and a great number of petty sovereignties on the Sunda islands. There is also Japan, which consists of many islands, comprehending an area of more than 200,000 square miles, with a population estimated at twenty-five millions.

The political relations of Western Asia are quite distinct from those of the eastern countries. The influence of the British and that of the Russians is here only subordinate; and the empire of China has no weight at all. In the lowlands, on the banks of the Gihon and Sir Darya, political power is subject to continual changes and divisions, which put a limit to the extension of the influence of the Chinese empire, though it projects like a wedge between Siberia on the north and India on the south. This territory of the nomadic tribes is probably the country of the Massagetæ of the ancients, the Khorasmia and Mawar-al-Nahar of the Arabs, the Zagatai of the Mongols in the middle ages, and contains at present the states of Bokhara, or Usbekistan, and Khiwa, each of which may comprehend about 100,000 square miles; and besides these, many petty sovereignties in the mountain regions, as Khokan, Badakshan, Turkistan, Tashkend, &c. All these countries may be considered as placed without the political relations of eastern as well as of Western Asia, and cannot be enumerated among the civilized kingdoms, which have attained a fixed and determinate form of government.

The nations whose power prevails in Western Asia are the Persians, the Arabs, and the Turks. Persia, which occupies the centre, would doubtless exercise a decisive influence, if it still formed one entire and undivided empire; but for more than half a century this country has been divided into two sovereignties, Eastern Persia, or Afghanistan, and Western Persia, or Persia Proper, nearly equal in extent, and each comprehending upwards of 500,000 square miles. But their population is still more unequal: Western Persia contains about nine millions of inhabitants, and Afghanistan probably does not exceed seven. Both Persia Proper and Afghanistan preserve the importance which is secured to them by their geographical situation, as being the countries through which the commercial intercourse between Eastern and Western Asia is carried on, which influence is still considerably increased by their being placed between the dominions of the Russians on the north, of the Turks on the west, and the British in India on the south.

Arabistan, the country of the Arabs, is of very little weight in the political affairs of Asia, and has always been so since the destruction of the caliphat. Its inhabitants are for the most part divided into wandering tribes, who are generally independent of one another, and therefore cannot act in union and with effect. Some of them are subject to the Turkish empire, but the Arabs and Turks consider one another as personal enemies, and have frequent feuds. Though this country is very thinly peopled, its inhabitants may be estimated at from ten to twelve millions, and it is divided into four considerable sovereignties and a great number of smaller political bodies, which however are often more or less dependent either on an Arabian prince or a foreigner. The religious political government of the Wahhabites, in the centre of the country, the Nejd, seemed indeed entirely destroyed in 1815, but it again raises its head, and begins to exist as a separate political body, though it is in some measure subject to the active pasha of Egypt. There are also the Imam of Yemen on the southern shores, and that of Muscat on the south-eastern corner, who, no less than the Sheriff of Mecca, and a great number of petty Beduin princes, are always engaged in secret or open war against the Turks, who claim them as their subjects. At the present moment it may be said that the power of the Turkish sultan over Arabia is only nominal.

The Turkish empire constitutes the last of the three great states of Western Asia; but the decline of its power in Europe, especially of late years, has had a corresponding effect on its political relations in Asia; and it can no longer be said that this empire extends over countries lying in the three great divisions of the ancient world.

Not many years ago, the surface of the Turkish empire was estimated at 900,000 square miles; but since that time its possessions in Africa, which formed nearly a third of the whole, have been lost; and Greece has been separated from its territory in Europe. The other provinces, divided into pashalics, are not in any intimate connexion with one another, nor even with the centre of the empire, and a great number of the inhabitants of the pashalic of Erzerum, which protects the northern boundary of the empire against Russia, have been transplanted to other countries. Many of the nations which inhabit the provinces lying on the boundary, as the Turkmans, the Kurds, the Caucasians, are still more difficult to keep in subjection than the pashas themselves.

Asia, Botany of.—With reference to the character of its vegetation, Asia may be conveniently divided into seven regions, namely, 1. the Siberian; 2. the Tartarian; 3. the Cashmerian; 4. the Syrian; 5. the Himalayan; 6. the Indian; and 7. the Malayan or Equinoctial. There are certainly no very precise limits between these, but nevertheless they may be taken as representing so many well-marked features of the Asiatic Flora, and as expressing the most important differences of climate which this division of the world exhibits.

I. The *Siberian* region comprehends all the northern parts of Asia lying between the Arctic Ocean and Tartary, including Kamtchatka on the east and the whole range of the Caucasian and Ural Mountains on the west, thus forming a broad belt passing over the whole continent, and limited on the south by the 50th parallel of latitude. In its general features this region is essentially European on the west, and similar to the west coast of America on the east. Its northern portion experiences in many places extremely rigorous winters and short summers, and the earth is perpetually frozen below the vegetable mould that overlies the surface. In the neighbourhood of Yeneseisk this is particularly remarkable. In that part of Asia the cold is so incredibly intense, that, according to Gmelin, 72° below zero of Fahrenheit is not very unusual, and it has been known as low as 120° below zero.

In a country where this degree of cold exists, vegetation must of necessity be of the most stunted description; accordingly we read of whole districts covered with nothing but morasses of course rushes mixed with diminutive birches and arbutus, small willows, and an arctic bramble or two; cabbages will not exist, and corn is almost unknown in a growing state. In somewhat milder districts the country is clothed with immense forests of birches, larches, and pines, among which the Cembra pine is a noble object, frequently attaining the height of 120 feet; to these are added Tartarian maples, balsams, poplars, and wild cherries, along with many species of *Caragana*, which is a genus characteristic of Siberia. Great numbers of gentians, especially *G. algida*, with its blue and white blossoms, large patches of the yellow *Rhododendron chrysanthum*, and the rich purple *Rhododendron dauricum*, with quantities of dwarf almonds and a great variety of other pretty flowers, fill the meadows and open parts of the country. Lilies of different kinds are met with in abundance in the eastern parts of the Siberian region, and their bulbs are used in Kamtchatka for food: in many places are also found rhubarbs, especially that sort called *Rheum undulatum*, but not the officinal species, the station of which is probably in the Tartarian region. Among the strong points of resemblance between this portion of the Asiatic Flora and that of the opposite coast of America may be mentioned the abundance of cinquefoils (*Potentilla*) found in both, one of which, *Potentilla pectinata*, appears to be common to both countries; *Pedicularis resupinata*, a very remarkable species, is also met with in both. Corn is cultivated successfully only in the southern parts of the Siberian region. The south-west parts possess remarkable fertility. On the north of Kolyban, barley gives a return of twelve and oats of twenty fold. Wheat is, however, raised with difficulty, and in its room the inhabitants sow different kinds of buck-wheat (*Polygonum*), from which a bad kind of bread is prepared, as in China and some parts of Lombardy.

II. The *Tartaric* region, as it is next to the Siberian, so it resembles it in most respects; and it may even be doubted whether it ought to be botanically distinguished, especially as very little is known of the exact nature of any part of its Flora, except that of Kunawur. It may, however, be characterized as being essentially Siberian in its genera, but distinct in the majority of its species; and so modified by the extreme cold and dryness of the climate, in consequence of the great elevation of the country, that most of the Siberian species, which are formed to breathe a more humid air, can scarcely exist in it. Cut off from the plains of India by the lofty pinnacles of the Himalayan range, it has no gradual communication with a tropical Flora in any of its provinces, but retains to its most southern limits its own peculiar aspect. Of the few species which botanists have seen from the most southern part of this region, scarcely any are met with in Siberia. What is called by travellers Tartaric Furze, has been ascertained by Dr. Royle to consist of prickly species of *Genista*, *Astragalus*, and *Caragana*; and the gooseberries, and currants, and willows, and rhubarb, are all of kinds unknown to the north of Asia, starved and stunted by the miserable climate.

The passes to the northern face of the range of stupendous mountains which divide the *Himalayan* region from that on the west, are described by Burnes as almost destitute of vegetation; but the asafœtida plants grow there in great luxuriance, and form the principal pasture of the flocks which browse on them.

In some places of this Trans-Himalayan region the aridity of the atmosphere is so great, that things neither rot nor decompose, but fall to dust in course of time: the surface of the soil is parched up and actually baked white by the scorching influence of the sun's rays. On the elevated table-land of Tartary the mountains are from 18,000 to 19,000 feet above the sea, without forests or even a bush, clothed with a withered and russet vegetation, and bare of snow. (Royle.) In other places, however, many trees are met with, among which are Tartaric species of ash, hazel, cypress, oaks, poplars, birches, pavias, &c. The Nooza pine (*Pinus Gerardiana*), the seeds of which are eatable, like those of the stone pine in Europe; the Indian cedar (*Abies Deodara*), *Abies Webbiana*, and a few other trees, with a northern aspect, straggle on the mountains from the Indian side, and give an air of grandeur to some parts of this otherwise desolate region. Some places in the lowlands, such as Balk, where the climate is less arid, produce fruit of great excellence, and resemble the Flora of the Cashmerian region. In Kunawur, barley, buckwheat, and turnips, were seen by the Messrs. Gerard at 13,600 feet; and a little lower the ground was covered with thyme, sage, and many other aromatic plants. At 17,000 feet Tartarian furze still grows.

III. In the northern districts of Persia, and in those provinces which stand between the Indian territory and that kingdom, nature still refuses to assume the tropical features which characterize Asia south of the Himalaya and east of the Indus. In many respects the vegetation of this, which may be called the Cashmerian region, is so like that of Europe, that, according to a French traveller in Cashmere, one would fancy oneself on a mountain in Auvergne, rather than in an Asiatic province bordering upon India. Sharp winters and fine warm summers nourish races of trees and flowers far more luxuriant and delicate than can appear in the long-protracted cold, and short summers of Siberia, or the dry and inclement steppes of Tartary. It is here that plants which delight in bright light and high summer heat, with a moist atmosphere, in their growing season, but which require a long and steady rest in winter, are met with in perfection. Rice, oranges, and olives, pomegranates, almonds, and fig-trees, remind the traveller of Italy, while grapes, mulberries, and the ordinary European fruit-trees cast a northern aspect over the scenery. All things that require much heat and light to arrive at perfection, such as the fragrant principle of tobacco, the narcotic juice of the opium-poppy, and the tears of the manna-ash, are produced in the Cashmerian region in the greatest excellence. In some places the appearance of a few herbs of tropical forms indicates an approach to the vegetation of India; such as the salep plant, which belongs to a genus otherwise confined to the tropical parts of Asia; cotton; and here and there the sugar-cane; but there is no trace of the great features of a more southern vegetation. In Cashmere flourish many of the fruits now cultivated in Europe; apricots, peaches, plums, cherries, apples, pears, and grapes, all in the greatest profusion, supply the markets. The walnut, which here is wild, is cultivated extensively for the sake of the oil which is pressed from its seeds, and used both in cookery, for burning, and instead of linseed-oil for painters' work. "The vine scales the summit of the poplar, and is never restrained by pruning, though, compared with it, those of Europe, either on the trellis or the wall, sink into insignificance." In the forests are found oriental planes and horse-chestnut trees (*Pavias*) truly wild; in the fields grow most of our European kinds of corn along with rice; and in the gardens the ordinary culinary vegetables of Europe. The Singhara nut (*trapa*) forms an object of general cultivation in the lakes which surround the city of Cashmere; one lake alone is stated by Moorcroft to produce from 96,000 to 128,000 ass-loads of this nut, and about 30,000 people are almost wholly supported by it for five months out of twelve. Nothing perhaps is more remarkable in Cashmere than its floating gardens, formed from the entangled stems of water-lilies covered with earth, and planted with melons and cucumbers, which, thus treated, arrive at the highest state of perfection, and are produced in great numbers.

The prangos, a kind of umbelliferous plant, is collected in some parts for the sake of the leaves, which, when dried, furnish a fodder much esteemed for sheep; and finally, the saffron crocus, which arrives at a great size, is extensively cultivated, and is a source of considerable revenue.

IV. Dovetailing, as it were, with what we have called the Cashmerian region, passing even through southern Persia into northern India, and finding its eastern limits in the Great Indian Desert, of which Delhi may be considered as the extreme point, is a botanical region to which the name of *Syrian* may be conveniently given, from its commencing with Syria on the west. It also comprehends the greater part of Turkey in Asia, and the north of Arabia. It might also be called a *Southern Tartarian* region, for its peculiar appearance is caused by aridity and heat, as that of the real Tartarian region is caused by aridity and cold. At its western extremity the Syrian region resembles the north of Africa and the south of Europe in many of its plants; on the east it is occupied by species having a certain degree of relation to the others, but more Indian in their character; for instance, it appears from Dr. Royle's list, that near Delhi such plants as species of flacourtia, elytraria, cocculus, and lepidagathis, which consist principally of Indian species, are intermixed with fagonias, grewias, capers, camel's-thorn (*Alhagi*), aruas, and scrubby heliotropes, which are truly Syrian. Desolation is the characteristic of a large part of this region, which is destitute of water, and scorched by a fervid sun. The trees are few and thorny, and scantily clothed with foliage; the very herbs are spiny from want of power to develope the soft green parenchyma of the leaf between their rigid veins; and they are shaggy with long hairs, which nature gives them as a feeble means of sucking up the scanty moisture of the atmosphere. If among this barren region oases are found shaded with date trees and mountains rich with verdure, they only form a sad contrast with the dreariness of the scene beyond them. Sinde may be considered the most south-eastern point of the Syrian region; here the vegetation of uncultivated tracts is described as of a miserable character. Great quantities of a sort of tamarisk, intermixed with thorny acacias, a deformed euphorbia, the flowers of which are still more uninviting than its bloated leafless stems, neem trees (*melia*), and peepuls (*Ficus religiosa*), constitute the principal features of the scenery.

V. The vegetation of the Himalaya Mountains is included under the general description of that mountain range, p. 174.

VI. In the *Indian* region should be comprehended all those countries which, like Hindustan, are capable of bearing coffee, indigo, sugar-canes, palms, and other ordinary products of a tropical district, without excessive humidity existing at all periods of the year. In this view it would include Arabia Felix, Birma, Siam, Cochin China, and the continental lands connected with these countries. What is called jungle is met with in most parts of this region. In the words of Dr. Royle, "tracts of this kind are low, and being inundated during the rainy season, as well as by the hill-streams frequently overflowing their banks, are generally in a moist state, and have hence been called the Turrai or moist land. The powerful rays of a nearly vertical sun beating upon this, and a dense mass of vegetation where there is little circulation of air, produce a heated and moist atmosphere highly favourable to the production of tropical plants. From the southern and eastern parts of this tract, or the confines of Silhet and Chittagong, Drs. Roxburgh and Wallich obtained their splendid specimens of tree-ferns."

In these damp and swampy forests eternal pestilence reigns; so that the native wood-cutters are often unable to remain in them more than a few days at a time, fevers and bowel complaints universally attacking them after a short exposure to their baneful influence. It is here, however, that some of the most remarkable and valuable of the vegetable productions of continental India are to be met with: it is here that are found the sapan trees, so important for their extreme hardness, teak, and many of the finest of the Indian timber trees; and amidst the vapours arising from the beds of the mountain-torrents which often tear a way for themselves through the forests, abound numerous species of ferns, together with those singular plants called by botanists *Orchideous epiphytes*, which cling by their aërial roots to the branches of trees, and astonish the traveller by their brilliant colours and grotesque forms.

In the cleared ground, where the soil is exposed to the rays of the sun and the earth is dried by a free ventilation, palms and evergreen trees of remarkable kinds are met with. Mangoes are planted round the villages, Palmyra trees (*Borassus flabelliformis*) are in many places extremely common; cocoa-nuts and Gomuto palms (*Arenga saccharifera*) are of frequent occurrence; a coarse grass overruns the plains, except in the cultivated spots, which are occupied by rice, sesamum, cotton, hemp, sugar-canes, yams, indigo, maize, the betel and other peppers. In place of *epiphytal orchideæ*, the branches of trees are occupied with parasitical *loranthi*, which, absorbing their food from the inside of the trees that bear them, are able to set at defiance the dry atmosphere with which at one season of the year they are surrounded. In some places, as on the coast of Martaban, tobacco arrives at such excellence as to rival that of Shiraz. The Flora of this country is, however, so vast, that no general description can give an idea of its richness and variety.

Among the most remarkable features in the Flora of India is the Banyan tree (*Ficus Indica*), the branches of which emit roots which descend to the earth, where they fix themselves, and become in time large trunks. When a banyan tree becomes old, and acquires a great number of such trunks, one individual will have the appearance of a grove. Many cases are cited of trees of this sort arriving at a prodigious size; the following, mentioned in the Journal of the Asiatic Society as growing in the territory of Mysore, will give a good notion of the surprising magnitude they sometimes attain. "The centre tree is about fifty or sixty feet in height, and its branches cover an area of seventy-six yards in one direction and eighty-eight in the other, while the drops now dependent from, or rather supporting, its gigantic branches, amount in number to one hundred and twenty-one, of which some are of enormous size. The place exhibits on all sides vast branches broken off, which have been evidently once connected with thirty trees, now disunited from the centre stock; but the original connexion can still be sufficiently traced to render unnecessary the testimony of the villagers, who state that they and their fathers have been in the habit of disuniting these trees by separating the intermediate parts for the construction of solid cart-wheels, for which, from their size, they are well suited. On measuring the transverse diameters of the whole area, they are found to contain more than 100 yards each way—this single tree thus affording a circle of foliage and shade exceeding 300 English yards in circumference."

Ceylon may be referred to the Indian region, notwithstanding its insular position. It produces cinnamon forests, nutmegs, and coffee; satinwood and ebony trees are found in abundance in the jungle about Trincomalee; while the forests of the island abound generally in other valuable kinds of timber. A kind called Wallaporte is spoken of by Mr. Brooke as girthing from twenty-eight to thirty-two feet.

VII. The seventh and last region of the Asiatic Flora is that which we would call the *Equinoctial* or *Malayan*. Spread over islands lying under the line—their centres usually occupied by mountains, and their coasts washed by the waters of a vast ocean—the features of this Flora are essentially different from those of the continent of India. The atmosphere is in a state of perpetual humidity, acted upon by a vertical sun; the land is little cleared, and allows but slender opportunity for the sun and wind to dry it. Many of the islands are little better than a mass of jungle, or at all events these dense and pestilential woods occupy a considerable portion of the surface. Many of the islands are intrenched with rank after rank of the living palisadoes of the mangrove, rooting into the mud, and surrounding the taller stems of the Nipa palm, Barringtonias, and thickets of sword-leaved vaquois trees. These woods are so dense that the sun never penetrates them; so entangled with climbers, coarse grasses, bamboos, and cane-palms, that no human being can penetrate them without a company of pioneers; and so damp that the parasites actually struggle with the leaves of the trees on which they grow for mastery over the branches; spice-trees, nutmegs, and cinnamon, camphor-trees (*Dipterocarpus*), and tree-ferns, here find their home; and in the depths of their recesses are sometimes nourished the fungus-like form of the huge Rafflesia flower. On the mountains are many species of oak, dammar pines, rhododendrons, and magnolias; and at the summits are found crowsfoot, valerians, bilberries, berberries, brambles, honeysuckles, gentians, and other well-known European forms.

The cleared ground of these countries is occupied with a great variety of fruit trees common to the rest of India, along with the mangosteen, durian, and rambutan, many-headed pines, jacks, and shaddocks, which attain their highest perfection here only.

Asia, Zoology of.—Considered in relation to its extent, the continent of Asia and its islands contain a greater number and variety of animals than any other quarter of the globe. Nor is it only in the number and variety of its zoological productions that Asia claims our particular attention. Their intrinsic value in the economy of human society, the prominent part which they played in the early civilization of mankind, and the universal importance which still attaches to the cultivation of domestic animals among the most civilised and refined, as well as among purely pastoral nations, make the consideration of Asiatic zoology an object of interest not less to the historian, the antiquary, and the general inquirer, than to the zoologist. In fact, the great majority of the domestic animals which have enabled man to till the earth, to extend his power, and to transport his commodities to distant regions, and which furnish him with food and raiment, are of Asiatic origin: the camel, the horse, the ass, the ox, the dog, are all of eastern derivation; and it is there alone that we must look for the original types of these useful animals. Naturalists have wasted much time in endeavouring to discover the wild sources from which some of our most common and useful domestic animals were derived; if they had looked for the origin of the dog, the cat, the sheep, and the goat in those regions in which these valuable servants were first brought under the dominion of man, their researches would probably have been attended with greater success; for it is but natural to suppose that the wild species, if they still exist in a state of nature, are to be found in the districts where they were first reclaimed.

The numbers, and relative distribution of Asiatic mammals, are expressed in the following table:—

ORDERS.	Whole No. of known species.	Whole No. of Asiatic species.	No. of species peculiar to Asia.	No. of species common to Asia and other Continents.
I. Quadrumana	186	45	39	6
II. Cheiroptera	192	46	41	5
III. Carnivora	320	112	60	52
IV. Marsupialia	67	6	3	3
V. Rodentia..........	295	111	75	36
VI. Edentata..........	23	2	2	..
VII. Pachydermata....	30	11	8	3
VIII. Ruminantia......	157	64	46	18
IX. Cetacea...........	76	25	14	11
Total..........	1346	422	288	134

Thus it will be observed, that of 1346 known quadrupeds, 422, or very nearly one-third of the whole number, inhabit some part of Asia or its dependent islands; but of these it will be further remarked, that 288 only, or about two-thirds of the whole, are peculiar to that continent, the remaining 134 extending into the neighbouring continents of Europe and America. Indeed it may be generally observed, that the zoological productions of the northern parts of these three continents respectively, if not absolutely identical, are at least extremely similar, even in their most minute features. Northern Asia, in particular, from its relative position, as situated between and connecting the other two, partakes equally of the productions of both; and it is probably to this circumstance, more than any other, that we ought to attribute the comparatively small number of its entire mammal inhabitants which are peculiar to this continent, when compared with those peculiar to Africa or America. Africa, for instance, contains 300 quadrupeds; yet out of these 50 only are found beyond the boundaries of that continent; America, again, out of no fewer than 537 species, has only 57 common to other regions; whilst, as already observed, Asia, out of 422 species, has no fewer than 154 equally common to Europe, Africa, and America. It will be likewise observed, from the foregoing table, that the Edentata and Marsupialia are the two orders of mammals in which Asia is most deficient, and that it is most rich in the number of its Ruminantia, compared with the whole number of known species. This is precisely the reverse of what we have already observed regarding the zoological productions of America, nor is the circumstance without importance to those who study the progress of society in these two continents.

The elephant, though never bred in a tame state, ought to be considered at the head of the domestic animals of Asia. The inhabitants of India appear to have known and practised, when Alexander's army entered the country, the very same modes of capturing and training the elephant which are employed at the present day. Their ancient writings mention this animal as a domestic servant, and he is constantly represented in the same character upon their public monuments. Alexander the Great, during his expedition into the north-west parts of India, found the armies of the native princes attended by their war elephants, just as the European invaders of the same country have done in later times; and from that period the elephant appears to have been constantly employed by the successors of Alexander in Western Asia, and also by the Carthaginians, and Pyrrhus, the king of Epirus, who fought against the Romans in Italy. Immense troops of wild elephants are still found in the northern parts of India, in the Malayan peninsula, and in Ceylon. Those which are employed in the East India Company's service, and which rarely exceed seven feet and a half average height, are obtained in the upper provinces, principally from the vicinity of the great saul forest, which skirts the lower ridges of the Himalayan chain for some hundred miles.

The common domestic animals of Asia present more varieties of species, and attain to greater individual perfection of form, than those of any other quarter of the globe. The horse, the ass, the camel, and probably most other species, are originally natives of the central plains of this extensive continent, and, though no longer found in a state of nature, are still proverbial for their symmetry and spirit. In Arabia, particularly, the horse is, of all other animals, the object of most especial care and value. No Arab, however poor in other respects, is without this noble animal, which is at once his friend and companion, the sharer of his riches or poverty, and the partner of all his toils. Subsisting on the same food as his master, which, during their long expeditions in the deserts, is often limited to a scanty supply of dried dates, temperate and enduring to a degree scarcely exceeded even by the camel or dromedary, lodged in the same hut, and caressed with the fondness of a child, the Arabian horse is never subjected to the performance of any mean drudgery or servile labour, and the record of his pedigree and kindred is preserved with the greatest care. This mode of treatment has a corresponding effect on the habits and character of the animal. In no other part of the world does the horse display so much gentleness, intelligence, and spirit as in Arabia; the pupil and constant associate of man, he almost seems to have caught a spark of human reason, readily comprehends and executes the orders of his master, and returns with delight and evident gratitude the attentions bestowed upon him. The nomadic and pastoral nations, which have from time immemorial occupied the central plains of Asia, are universally an equestrian people; they may be almost said to live on horseback; and indeed it would be impossible for them to carry on the predatory expeditions for which they have been in all ages remarkable, or to traverse the steppes of Asia, without the aid of this noble animal. Nor do these people employ the horse as a beast of burthen alone; his flesh supplies them with their favourite food, and the milk of the mare is the greatest dainty of a Tartar feast. Wild horses are said to exist in the interior of Tartary, where the inhabitants hunt them for the sake of their flesh; but the account in this instance, as in the similar report of the existence of wild asses in the same localities, cannot be implicitly relied upon, as travellers imperfectly acquainted with zoological distinctions frequently give the names of familiar animals to others which resemble them in form and appearance, without attending very closely to their specific difference. In the present instance, it is more than probable that both the wild horse and wild ass of eastern travellers are to be referred to the Dziggetai, a species of intermediate size and form, which inhabits the same regions, and has always retained its original freedom.

The asses, like the horses, of Asia are of larger proportions and more generous spirit than those which have been transported to other countries. That Central Asia was originally the habitat of both these animals there can be no doubt, not only because we find them there domesticated at the earliest periods of which we have any record, but likewise because the Asiatics are, and, as far as we know, always have been, equestrian nations, whilst, in the neighbouring continent of Africa, the species was probably introduced from Asia, though at what period is uncertain. The horse, indeed, was early known and used in Egypt, as we know from the monuments and from written history. But the negroes of Interior Africa, and, generally speaking, the whole southern part of the continent, are to this day destitute of either the horse or the ass. Nothing can present a greater contrast than the comparison of the degraded and degenerate ass of Europe with the same animal bred in his native country. Instead of the dejected air, shaggy coat, pinched dimensions, and miserable half-starved appearance which he presents in these countries, the ass of Persia, Syria, and the Levant approaches nearer to the larger size of the horse, and partakes much of his beautiful symmetry of form, noble carriage, and unrivalled speed.

It appears probable that the camel and dromedary are likewise of Asiatic origin. The wide extent of the Arabian conquests during the middle ages introduced the latter species into most parts of Northern and Central Africa, where it has been ever since established, and is of the greatest use in crossing the sandy deserts which separate the inhabited regions of the north from the interior of the continent. The camel, which is distinguished from the dromedary by having two humps on the back instead of one, appears to have been in all ages more limited and confined in its geographical distribution than the latter species. The camel is found chiefly, if not solely, among the wandering Tartars, from the confines of Siberia to the northern ridges of the great Himalayan chain; whilst the dromedary spreads not only over Arabia, Syria, Mesopotamia, and Persia, but extended into India, and probably even into China. These animals are mentioned among the earliest lists of the flocks and herds of the patriarchs: and it is not a little singular that here, as in the case of most other domestic animals, not the slightest trace seems to remain of the original wild stock from which the species was first reclaimed. Professor Pallas, it is true, reports the existence of wild camels in the neighbourhood of Lake Aral, but he never met with them in his travels, though he frequently heard of them; and Baron Cuvier conjectures, with much seeming probability, that the reports refer to some of the wild animals to which the inhabitants of these regions, from religious motives, restore their liberty at the celebration of particular festivals.

Of the ox kind, no fewer than four distinct species have been, from time immemorial, domesticated in different parts of Asia. The common Indian ox (*Bos Indicus*), though usually confounded with the common ox of Western Europe, is in reality a very distinct species; differing not only by his longer legs, and the large lump which marks his shoulders, like that of a dromedary, but likewise by his voice, and even by some details of internal conformation. This animal, from his superior height and more slender proportions, perhaps the most symmetrical and graceful of all the different species of the ox genus, has been from the earliest ages held in the greatest veneration by the natives of India; and there is a strong resemblance between the worship of Apis among the ancient Egyptians, and that which the followers of Brahma paid to the Indian ox, as an incarnation of their favourite deity Vishnu. But the whole race of Indian cattle are not equally regarded as objects of religious veneration: these attentions seem to be exclusively bestowed upon a particular breed; and the greatest care is taken to maintain the purity of this sacred race, and to preserve the pedigrees of its individual members. The common Indian cattle, however, are not regarded with the same religious sentiments. They are the usual beasts of draught and burthen in the country; and, from their great speed, are frequently used for the saddle, even by the Europeans settled in the upper provinces. The intercourse which India always seems to have maintained with other commercial nations of antiquity was the means of introducing this beautiful and useful animal into more distant regions; and we now find the Brahmin bull extending over a great part of Persia and Syria, and mixed with the common flat-backed species of the West, in Madagascar, Abyssinia, and generally along the whole eastern coast of Africa.

The Yak (*Bos grunniens*) is another species of ox which has been long domesticated in Central Asia. It has always formed the common cattle of the Tartars, and is well described by Ælian under the name of Poephagus. It is this animal which furnishes the tails of long silky white hair, of which the Turks make their military standards, and which are employed all over the East, under the name of chowries, for the purpose of driving away the flies and creating a refreshing current of air about the luxurious inhabitants of India and China. These favourite instruments of luxury are frequently set in silver or gold handles; and as they are an indispensable appendage to the state of a great man, they form one of the regular articles of import between Tibet and India, and are frequently sold for enormous prices. The use of these chowries is of very great antiquity throughout all eastern countries.

The Buffalo (*Bos bubalus*) is a third species of ox, long domesticated in the southern and eastern parts of Asia. India and China appear to be the original climate of this powerful animal: it is still found wild in all the great forests of both these countries, and is probably the only domestic quadruped of which zoologists have clearly ascertained the original source. The wild buffalo, called *arni* by the Indians, is said to be only inferior to the elephant in size; and from his ferocity and malignant disposition is much dreaded by those who reside in the vicinity of his haunts. Combats between the arni and the tiger were formerly a favourite sport of the native princes of India; but it is said by eye-witnesses that the tiger was in no instance a match for his powerful antagonist. Large herds of the domestic buffalo are kept throughout every part of the peninsula of India; and many anecdotes are related of their docility and attachment to the gullahs or herdsmen who attend them, and of the courage with which they defend their keepers from the formidable attacks of the tigers and panthers which inhabit the forests where they are usually pastured. The buffalo in India is not habitually used as a beast of draught or burthen, but supplies the place of the common ox, in furnishing the inhabitants with milk and butter; whilst the ox of the country, which is seldom applied to these latter purposes, assumes the place of the horse, and is used for the saddle, the plough and the hackery, or carriage. Though long domesticated in India and China, the introduction of the buffalo into the West, or even into Persia, is comparatively a recent occurrence, and dates only from the conquests of the Mohammedans. Aristotle, indeed, seems to allude to the buffalo under the name of the Wild Ox of Arachosia ('Hist. of Animals,' book ii. 1); and the followers of Alexander must have become acquainted with the animal during that conqueror's expedition in the Penj-ab. But it was only towards the latter end of the sixth century that it was first seen in Western Europe, having been introduced into Italy about the year 596; nor has the species ever extended either in this continent or in Africa, in which it is almost exclusively confined to Egypt.

The fourth and last known species of domestic ox which the Asiatic nations possess, is the Gayal (*Bos Gavæus*). This animal is common among the Burmese, and in all the mountainous districts on the north-east boundaries of British India: it is also found wild, under the name of Gaur, in many parts of India, principally among the hills, and is as much dreaded by the Sheecarries, or native huntsmen, as the arni or tiger. The gayal is a very large animal, with a heavy carcase and short legs, which are commonly white from the knee downwards, whilst the body is of a uniform dark-brown colour: the os frontis forms a singular excrescence or ridge which easily distinguishes the gayal from all other species of the ox kind; and the horns are round, and twisted into a kind of irregular spiral, with the points turned inwards and backwards.

Of sheep and goats, many different varieties are found in Asia. The broad-tailed sheep of Arabia was known to the ancients, and is mentioned by Herodotus (iii. 113) and Aristotle: this variety has now spread throughout all the steppes of the continent, as well as through Egypt and Northern Africa, where the fat of the tail frequently amounts to ten pounds' weight. The tail is the best part of the animal, for the flesh is dry and insipid; and instead of wool, the body is covered with a short coarse hair, unfit for manufacturing purposes. On the higher table-lands of the continent, however, other species of sheep are found with a longer and finer fleece; but in no instance does the wool of the Asiatic sheep approach in softness and beauty of texture to that of the shawl-goat of Cashmere, from the fleece of which the Indians manufacture those rich and valuable shawls which are so highly esteemed in Europe as well as throughout the East. The shawl-goat is a small variety of very ordinary appearance; it is found principally in Bootan, Tibet, and generally along the northern face of the Himalaya, but does not thrive when brought across the mountains, not even in the upper regions of Nepaul, where it might have been expected that it would find a congenial climate: its wool forms a valuable article of commerce between Tibet and the lower plains of India. The Angora goat is an inferior variety of the shawl-goat, with drooping ears and long wool of tolerably fine texture, but not adapted to the same purposes as the richer wool of the Tibet animal. The common variety of goat in Asia is a tall long-legged animal, with very short hair, large drooping ears, and small spiral horns. Its flesh is in many parts preferred to mutton; and the animal is valued in all places for the richness and abundance of its milk.

The Hog, though found wild in most parts of Asia, is a domestic only among the Chinese, who appear to esteem its flesh in proportion to the detestation with which it is regarded by the followers of Mohammed and Buddha. In India, herds of semi-domestic hogs are frequently found about the native villages; but as the religion of Brahma prohibits the destruction of animal life, and consequently the use of flesh as an article of food, they are turned to no account by the inhabitants; by whom, however, they are not regarded with the horror and detestation which attaches to them among the followers of the Arabian prophet. The Indians abstain from the use of pork for the same reason that they abstain from eating any other kind of flesh; not from any peculiar antipathy which they bear to the animal itself. The hog is regarded by the Chinese as the greatest luxury; and it is well known that the dog and the hog were the only domestic animals which their first discoverers found among the Polynesian islanders. It appears probable, however, that the animal called a hog in the voyages of early navigators, and which was found spread over all the various archipelagos of the Indian Ocean, is in reality a different species from our common European hog, though closely allied to it in form and appearance.

The Dog of Asia, as in every other great division of the world, is subject to an almost infinite number of varieties.

Troops of this animal, called in India pahria dogs, inhabit every village, and without acknowledging any particular master, know and obey the inhabitants, warn them of the approach of wild beasts and robbers, and perform the common offices of public scavengers. Legacies are frequently left for their support by the pious Hindoos; and hospitals are built for the reception and care of the aged and wounded. But besides these public troops, which may be considered as the property of the state, there are various varieties of sporting and other dogs, kept by private individuals in different parts of Asia; of which the principal are the large mastiff of Tibet, and the greyhound of Persia. The flesh of the dog is a common article of food in China, as it formerly was in the islands of the Indian Ocean; and it is said to be a most amusing sight to the few Europeans who have obtained access to the large cities in the interior of the empire, to witness the antipathy with which these sagacious animals pursue their enemies the butchers, when they appear in the public streets.

The Cat has always been a favourite domestic among the Asiatics; and the Mohammedans, in particular, who consider the dog as unclean, lavish all their attention and caresses upon this far less gentle and sagacious animal. In the central plains and table-lands of Asia, in Khorasan, Cashmere, and Bootan, as well as in Angora and other districts of Asia Minor, the fur of the cat assumes a long silky texture, of great beauty and fineness; and individuals of the esteemed colours are frequently sold for extravagant prices. This is the breed which is often brought to Europe under the name of Persian cats; they are much more gentle in disposition than our common domestic cat, but are less useful, and decidedly inferior to the dog as a pet or companion.

Of the wild Mammals peculiar to Asia, we have already observed that there are, comparatively speaking, a greater variety than in any other portion of the globe. The true apes (*pithecus*) are, with a single exception, that of the Chimpanzee (*P. troglodytes*) of Africa peculiar to this continent; as are likewise the *Semnopitheci*, an extensive tribe which differs from them only by the possession of a very long slender tail. Among these latter, the Kahau (*S. nasutus*), a large species inhabiting China and the Malayan peninsula, nearly attains to the dimensions of man, and is remarkable for a large prominent nose, which assimilates it in general appearance more nearly to the human species than any other of the monkey tribe. The Macaques (*macacus*) are likewise a purely Asiatic genus of quadrumana, and appear to supply on this continent the situation which the baboons fill in Africa. They swarm in all the woods of India and China, and are remarkable only for their malevolent dispositions and their disgusting manners. Of the Lemur tribe, two genera, *nycticebus* and *tarsius*, inhabit Asia: all the rest of this numerous family are either found in the large island of Madagascar, or along the eastern coast of the neighbouring continent of Africa.

Among the Cheiroptera, or Bat kind, the *pteropi*, or large frugivorous species, are almost exclusively Asiatic; as are likewise the *galeopitheci*, or, as they are commonly called by travellers, flying foxes. Both these genera inhabit the woods and forests of the intertropical parts of Asia, principally those of the great Indian Isles; unlike the generality of winged quadrupeds, they are of diurnal habits, live entirely upon leaves and fruits, and are eaten by the natives. The more common species of nocturnal and insectivorous cheiroptera swarm in every part of Asia; the most remarkable among them is a species (*cheiromeles*) with an opposable thumb on the hind feet, which inhabits the Malayan peninsula.

Among the Carnivorous animals of Asia are three or four different species of Bears; one of these (*Ursus Syriacus*), lately discovered on Mount Lebanon, is frequently mentioned by the sacred writers; the others inhabit the Himalaya and other more eastern mountains, except one species (*U. labiatus*), which is found in the jungles on the plains of India. Besides these, the common brown bear of Europe and the white or Polar bear abound in Siberia, Kamtchatka, and along the shores of the Frozen Ocean. The Bali-Saur (*arctonyx*) is the badger of India; and among the smaller Carnivora, the Gymnura, Mydai, Ailuri, Arctites, and Paradoxuri, are peculiar to the continent of Asia and the large islands of Borneo, Sumatra, and Java. Among the fur animals, Northern Asia produces the sable, the ermine, and various other species of *mustela*; the sea-otter, the most valuable of all, has been hitherto found only in the northern Pacific, along the coasts of Asia and America, from the parallel of Japan northward, as far as navigators have yet been able to penetrate. The tiger, the most savage and formidable of all the carnivorous animals, exists only in Asia and the neighbouring isles; the Rimau-dahan (*Felis macrocelis*), a large species but lately described, inhabits Siam and Sumatra; and the leopard and panther are common among the forests of India. The lion also has lately been found in the province of Guzerat; but, unlike the African variety, he is without a mane, and appears to be altogether a much less formidable animal. The striped hyæna is common in all the warmer parts of the continent; and various species of wild dogs and foxes are everywhere abundant.

The Marsupial animals are for the most part confined to Australia; a few species, nevertheless, extend throughout the long chain of islands which nearly unite this continent with Asia. Of these, one is a kangaroo (*Macropus Bruynii*), the first of the genus ever discovered, having been figured one hundred and fifty years ago by Le Bruyn; the other five marsupials enumerated in the table belong to the genus Phalangista, and are distinguished from the Australian phalangers by having the tail partially or entirely naked and scaly.

Of the numerous Rodentia which inhabit every part of Asia, very few indeed are deserving of attention, either in a commercial or economical point of view. Three or four species of hares (*lepus*), and an equal number of lagomice, or hare-rats, are the only Asiatic animals of this tribe which Europeans are accustomed to consider as fit for human food; the rest consist principally of squirrels (many of which are of large size and prettily variegated with stripes and shades of different colours), rats, jerboas, hamsters, marmots, flying squirrels, and two or three different species of porcupines. The jerboas (*dipus*), of which ten or twelve species are found in the deserts of the interior, burrow in the sand, at the root of some plant or shrub, and are almost the only animals which enliven the long and dreary wastes which the traveller frequently encounters in Asia, hopping along on the hind legs like a bird, and crossing his path with the rapidity of an arrow. The flying squirrels (*pteromys*) inhabit the forests of the whole continent from Siberia to Java, and are remarkable for an expansion of the skin along the sides, which enables them to leap to the distance of forty or fifty yards, in passing from tree to tree; it acts like a parachute, to prevent too rapid a descent, though it is incapable of being moved like the wings of birds, and consequently of exercising the proper function of flying.

The Edentata of Asia are confined to two species, both belonging to the genus Manis, or Pangolins, frequently called scaly ant-eaters by travellers. These singular animals in fact resemble the real ant-eaters of the American continent in every thing but their external covering, which, instead of the ordinary hair of quadrupeds, consists of a succession of parallel rows of large imbricated scales, that lap over one another like the tiles of a house, and are capable of being elevated or depressed at the will of the animal. One of the Asiatic species is clearly indicated by Ælian (xvi. 6) under the name of Phattage.

Among the Pachydermata of Asia, the elephant has been already noticed. Three different species of rhinoceros are known to inhabit the continent of India and the great islands contiguous to the Malayan peninsula. The continental species (*R. Indicus*), and that which inhabits the island of Java (*R. Javanicus*), have but one horn; the Sumatran rhinoceros (*R. Sumatrensis*) resembles the African species by having two of these excrescences, for they cannot be properly called horns. Of the genus *Equus*, the common horse and ass have been already mentioned, as in all probability originally indigenous to the central plains of Asia. One other species, the Dziggetai (*E. hemionus*), still retains its native freedom in the same localities. It is a beautiful animal, in point of size intermediate between the other two, with much of the symmetrical figure and graceful carriage of the horse, and of the same dun colour as the ass, marked along the back with a broad coffee-coloured stripe, but without the cross on the shoulder which distinguishes that animal. The Dziggetai, probably also the Koulan of the modern Persians, was well known to the ancients, and is mentioned by Aristotle and Xenophon by the name of the wild ass. Aristotle (vi. 36), in addition to the wild ass, mentions an animal called the Syrian mule, from its resemblance to a mule. The latter author mentions that, during the expedition of the Ten Thousand under the younger Cyrus, these animals were observed on the open plains of Mesopotamia, where the ostrich also lived; and though these gigantic birds no longer inhabit the Asiatic deserts, the same phenomenon is daily observed in South Africa, where the ostrich and the quagga are invariably found to associate together. Of the hog genus (*Sus*), two species at least are found in Asia: one of these, the common wild boar of Europe (*S. scrofa*), appears to extend over every part of the Old World; the other, the *Sus babyrussa* of naturalists, is peculiar to the great Indian Isles, and is remarkable for the singular manner in which the tusks of the upper jaw pierce through the lip on each side, and curl round and over the eyes like a pair of circular horns. The only other pachydermatous animal of Asia which deserves particular notice is the Malayan tapir (*T. Indicus*), a species the existence of which in this part of the world is the more remarkable, since its congeners are confined to the forests of South America.

Of the Ruminating animals of Asia, the camel, the dromedary, and the four species of the ox kind which have been domesticated by the natives, have been already mentioned. In other respects, the principal feature in this department of Asiatic zoology is the great abundance of the deer tribe, and the comparative scarcity of antelopes. Out of thirty-seven known species of deer (*Cervus*), twenty-five are found in Asia, and of these twenty are peculiar to it; whilst not more than a dozen, out of nearly sixty antelopes, are found upon the same continent. But there is one small genus of Asiatic ruminants too remarkable to be passed over unnoticed,—the musks, so called from the Tibet species, which produces the perfume so well known by this name. The Tibet musk (*Moschus moschiferus*) is about the size of a small goat; both sexes are without horns, but the musk is produced by the male only, and is contained in a bag which grows upon the prepuce. This perfume has always been held in high esteem throughout the East, and, when genuine and pure, is said to be sometimes sold for its weight in gold; but its great value holds out strong temptations to adulterate it with foreign substances, and the hunters are accustomed to mix the blood of the animal with it in order to increase the quantity, so that it can seldom be procured without adulteration. The Tibet musk inhabits the highest parts of the Himalayan and Tibetian mountains, seldom descending below the snow-line, and leaping among the rocks and precipices with the security of the chamois or the ibex. Four or five smaller species of the genus Moschus, probably the smallest of all hoofed animals, being seldom larger than a good-sized hare, inhabit the forests of lower India and the islands.

The Cetacea of Asia are principally found along the northern coasts, and are the same species which frequent the Frozen Ocean generally. Various species of dolphins (*Delphinus*) inhabit the tropical seas, and the dugong (*Halicore*) is found among the great Indian islands; but in no other respects does this part of Asiatic zoology demand particular notice.

The principal circumstance worthy of notice in the birds of India, is the great abundance and varied and brilliant colours of the Gallinaceous tribes which inhabit this part of the world.

Indeed the most valuable of our domestic fowls, the common cock and hen, as well as our domestic quadrupeds, originally came from this continent, and are still found wild in the woods of India; as are likewise the peacock, the pheasant, and many kindred species. The Himalayan Mountains, in particular, produce three or four different species of the Tragophans, or horned pheasants, and the Impayan pheasant, remarkable for the brilliant metallic lustre of its plumage. The gold and silver pheasants (*Phasianus pictus* et *nycthemerus*), so common in the aviaries of Europe, are indigenous in China, as are likewise the collared pheasant (*Ph. torquatus*), and a new species (*Ph. Reevesii*) lately discovered, remarkable for the great length of the tail feathers, which sometimes exceed four feet; the fire-pheasant (*Ph. ignitus*) and argus-pheasant (*Ph. argus*) inhabitant the mountains of Sumatra and Borneo

It has already been observed that the ostrich, though formerly abundant in the deserts of Mesopotamia, is no longer found on the continent of Asia, unless we take the testimony of Herbert (p. 132), who says that he saw ostriches in the plains between Lar and Shiraz (A. D. 1627). The cassowary (*Casuarius*), a bird which nearly approaches the ostrich both in size and internal structure, inhabits the islands of the Indian Archipelago. In other respects the ornithology of Asia is by no means peculiar, at least the generic forms are not so remarkable as those of either Africa or America. All the common European species are found even in the most distant parts of the continent, apparently so identical, that specimens from the two localities cannot be distinguished even by the difference of a feather. The common house-sparrow, for instance, is found in the Himalayan Mountains, and is as abundant about the villages of Upper Nepaul as in any part of England.

The reptiles, fishes, and insects of Asia are likewise too nearly assimilated to those of other continents to require a detailed enumeration of their different forms and genera. Like birds, these different classes of animals possess powers of locomotion which are denied to mammals, and it is consequently to the latter class alone that we can look for anything very peculiar in the zoology of a continent like Asia or America. It is on this account that we have been more particular in the enumeration of the quadrupeds than of any other class.

(From the "Penny Cyclopædia," with some few alterations.)

THE HORSE.

BY WILLIAM YOUATT.

THE native country of the horse is unknown. From very remote periods he has been found in almost every part of the Old World, but his appearance on the continents and the islands of the New World, whether of the Atlantic or Pacific Ocean, is of comparatively recent date. Everywhere he is recognised as the most useful of the servants of man, and he yields in intelligence to the dog alone. In the earlier ages of the world he seems to have been devoted to the purposes of war or of pleasure, while the ox was our agricultural servant; but his beauty, and strength, and tractability, have now connected him, directly or indirectly, with almost all the purposes of life. If he differs in different countries in form and in size, it is from the influence of climate and cultivation; but otherwise, from the war-horse, as he is depicted in the sculptures of ancient temples, to the stately charger of Holstein and of Spain, or from the fleet and beautiful Arabian to the diminutive Shetlander, there is an evident similarity of form and character which clearly stamps his common origin.

Our sheep and cattle, and other domesticated animals, are also useful and valuable to us, and shame on him who can neglect or abuse them! but in the horse—not to the same extent as in the dog, but still to a great extent—it is our own fault if we have not a friend as well as a servant. If well treated, he becomes sincerely and ardently attached to us: the utmost of his strength and speed is at our call, and he is never happier than when employed in our service. He enters into many of our enjoyments with as great delight as we ourselves can possibly feel. See him following the hounds. There never was a biped who entered more thoroughly into the joys of the chase than does the horse. There is no sporting man who has not again and again witnessed the proud bearing of the racer when he has beaten his opponent, and the disappointment marked in his countenance and his gait when he has not been successful.

There is not a surer test of nobleness of character than sincerity and permanence of friendship. It is occasionally seen to a great degree between horses that inhabit the same stable, or have been accustomed to draw together. The coachman well knows that he gets over his stage in less time, and with a great deal more pleasure, when old yoke-fellows are pulling together, than when strange horses are paired. In some the friendship is so intense that they will neither feed nor live when separated from each other. Two Hanoverian horses had long served together during the Peninsular War. They had drawn the same gun, and had been inseparable companions in many battles. One of them was at last killed; and after the engagement was over, the survivor was picketed, as usual, and his food brought to him. He refused to eat, and was constantly looking about in search of his companion, sometimes neighing as if to call him. He was surrounded by other horses, but he did not notice them, and he shortly afterwards died, not having tasted food from the time when his former associate was killed.

The horse is naturally and of choice an herbivorous animal. His thin and muscular lips, his firm and compressed mouth, and his sharp incisor teeth, are admirably adapted to seize and to crop the grass; and although we know nothing of him in his natural state, yet when he has escaped from the bondage of man, and follows his own propensities, the grass is his chosen food. In his domesticated state, however, he is destined to live partially or chiefly on other aliment, and that of a much harder kind—the various species of corn; therefore, while man and the carnivorous animals can only champ and crush their food, a provision is given to the horse, in the structure of some of the bones of the face, by means of which he can comminute and grind down his food as perfectly as in the best-contrived mill.

The teeth of the horse require some lengthened consideration, not only from their admirable adaptation to this purpose, but as indicating, by the various changes which they undergo, and almost beyond the possibility of error, the age of the animal. He may, when young in years, be reduced nearly to the decrepitude of age by the barbarous usage of those who ought to have been his most zealous protectors; the cavity above the eye may be deepened, the under lip may fall, the limbs may be bowed, and the feet may be battered and distorted—but it is not easy to alter the character of the teeth.

The colt is generally dropped with the first and second molar and grinding teeth having forced their way through the gum. When he is about seven or eight days old, the two central front or incisor teeth, above and below, appear. At the expiration of five or six weeks the two next incisors may be seen. At three months they will have overtaken the central ones, and [illegible] pairs will have nearly attained their natural level. [illegible] grinder will then have appeared; and a little before or [illegible] the eighth month the third nipper, above and below and on each side, will have protruded. The colt will now have his full complement of front or cutting teeth.

These teeth are beautifully adapted to their purpose. They have in front an elevated cutting edge of considerable sharpness. It is formed of enamel, a polished substance which covers the tooth, and is almost too hard to be acted upon by a file. This elevated edge is bent somewhat inwards and over the tooth, so that there is a depression behind it which gradually becomes stained by the food and constitutes what is called "the mark" in the mouth of the colt or horse.

This elevated edge of enamel, hard as it is, is gradually worn down in the act of nipping and cutting the grass; and as it wears away the hollow behind becomes diminished, and is at length totally obliterated. By the degree in which this mark is effaced, the horseman, not only with regard to the first, but the permanent teeth, judges of the age of the animal. This obliteration begins to be manifest at a very early age. At six months it is sufficiently evident in the four central nippers. At a year and a half the mark will be very faint in the central nippers, diminished in the other two, and the surface of all of them will be flattened.

At twelve months a fourth grinder protrudes, and a fifth at the expiration of two years.

These are all temporary teeth. They were only designed to last during an early period of the life of the animal; and when his jaws become considerably expanded, they give way to another set, larger, firmer, and that will probably last during life. The permanent teeth had been long growing in the socket beneath the temporary ones, and had been pressing upon their roots, and that pressure had caused an absorption of these roots, until at length they lost all hold and were displaced.

When the animal is about three years old, the central pair of nippers, above and below, are thus removed, and two fresh teeth, easily distinguishable from the first by their increased size, make their appearance, so that a three-year-old colt is easily recognised by these two new and enlarged central nippers, A three-year-old colt has his form and energies much more developed than a two-year-old one, and is considerably more valuable; therefore some dishonest breeders endeavour to pass him upon the unwary as being a year older than he really is, and they accomplish this in an ingenious but cruel manner by punching or drawing out these teeth. This cannot however be effected until a portion of the second year is past, when the permanent teeth below are beginning to press upon the roots of their predecessors, and then the breeder extracts the central milk-teeth. Those below, having no longer anything to resist their progress, grow far more rapidly than they otherwise would do, and the scoundrel gains four or five months in the apparent age of his colt.

Can this trickery be detected? Not always, except by him who is well accustomed to horses. The comparatively slow wasting of the other nippers, the difference of the development of these nippers in the upper and under jaw—for the breeder usually confines his roguery to the lower jaw, the upper one being comparatively seldom examined—these circumstances, together with a deficiency of general development in the colt, will sufficiently enable the purchaser to detect the attempted cheat.

The honest mouth of a three-year-old horse should be thus formed:—the central teeth are palpably larger than the others, and have the mark on their upper surface evident and well defined. They will however be lower than the other teeth. The mark in the next pair of nippers will be nearly worn away, and that in the corner nippers will have begun to wear.

At three years and a half the second nippers will be pushed from their sockets, and their place gradually supplied by a new pair; and at four and a half the corner nippers will be undergoing the same process. Thus at four years old the central nippers will be fully grown; the next pair will be up, but will not have attained their full height; and the corner nippers will be small, with their mark nearly effaced. At five years old the mark will begin to be effaced from the central teeth, the next pair will be fully grown and the blackness of the mark a little taken off, and the corner pair will be protruding or partly grown.

At this period, or between the fourth and fifth year, another change will take place in the mouth of the horse; the tushes will have begun to appear. There will be two of them in each jaw, between the nippers and the grinders, considerably nearer to the former than the latter, and particularly so in the lower jaw. The use of these tushes in the domesticated state of the horse is not evident; but they were probably designed as weapons of offence in the wild state of the animals. Attempts are too frequently made to hasten the appearance of the second and the corner teeth, in the same manner as described with regard to the first, and the gum is often deeply lanced in order to hasten the appearance of the tush.

At six years old the mark on the central nippers will be diminished, if not obliterated. A depression and a mark of rather brown hue may remain, but the deep blackened hole in the centre will no longer be found. The other incisors will also be somewhat worn, and the tush fully developed.

At seven the mark on the next pair of incisors will have nearly disappeared, and the tush will be rounded at the point and the edges.

At eight the mark will be gone from all the incisor teeth, and the tush will be evidently rounder and blunter.

At this period another piece of trickery is occasionally practised. The breeder had, until the animal was five years old, been endeavouring to give him an older appearance than his years entitled him to, because, in proportion as he approached the period when his powers were most perfectly developed, his value increased; but now he endeavours to conceal the ravages of age. The horse is cast, and with a sharp-pointed steel instrument a little hole is dug on the surface of the corner incisor, to which a red-hot iron is afterwards applied. An indelible black mark is thus left on the tooth. Sometimes the roguery is carried further; the next tooth is slightly touched with the engraver and the cautery; but here the dishonest dealer generally overreaches himself, for the form and general appearance of a six-year-old horse can rarely be given to one who has passed his eighth year. The eighth year having passed, it is difficult to decide on the exact age of the horse. The incisors of the upper jaw are then the best guides. At nine years the mark will be worn away from the central teeth; at eleven, from the next pair; and at twelve, from the corner ones. The tush likewise becomes shorter and blunter.

There are many circumstances which render a decision as to the age of the horse very difficult after the marks are effaced from the lower incisors, and even before that period. Horses always kept in the stable have the mark much sooner worn out than those that are at grass; and it is impossible to form any certain calculation as to crib-biters.

Of the age to which the horse would naturally arrive it is also impossible to say anything satisfactory. Many have exceeded thirty, and some even forty years; but, from ill usage and over-exertion, the majority come to their end before they have seen nine or ten years.

The Proper Conformation of the Horse.—A very general account only can be given of this, for it varies essentially with the breed and destination of the animal. There are some points however which are valuable in horses of every description. The head should not be disproportionally large, and should be well set on, *i. e.* the lower jaw-bones should be sufficiently far apart to enable the head to form that angle with the neck which gives to it free motion and a graceful carriage, and prevents its bearing too heavy on the hand. The eye should be large and a little prominent, and the eyelid fine and thin. The ear should be small and erect, and quick in motion. The lop-ear indicates dulness or stubbornness; and when it is habitually laid too far back upon the neck, there is very frequently a disposition to mischief. The nostril in every breed should be somewhat expanded: it can hardly be too much so in the racer, the hunter, the roadster, and the coach-horse, for the horse breathes only through the nostril, and would be dangerously distressed when much speed is required of him, if the nostril could not dilate to admit and to return the air. The neck should be long rather than short, which enables the animal to graze with more ease, and to throw his weight more forward, whether he is in harness or galloping at the top of his speed. It should be muscular at the base, and gradually become fine as it approaches the head. The withers should be somewhat high in every horse, except perhaps that of heavy draught, and it does not harm him, for there is a larger surface for the attachment of the muscles of the back, and they act at greater mechanical advantage. A slanting direction of the shoulder gives also much mechanical advantage, as well as an easy and pleasant action, and a greater degree of safety. It must not however exist in any considerable degree in the horse of draught, and particularly of heavy draught. The chest must be capacious, for it contains the heart and the lungs, the organs on which the speed and endurance of the horse depend. Capacity of chest is indispensable in every horse, but the form of the chest admits of variation. In the waggon-horse the circular chest may be admitted, because he seldom goes at any great speed, and there is comparatively little variation in the quantity of air required; but, in other horses, the variation is often fearful. The quantity of air expended in the gallop is many times that required in slow work. Here we must have depth of chest, not only as giving more room for the insertion of the muscles on the action of which the expansion of it depends, but a conformation of the chest which admits of that expansion. That which is somewhat straight may be easily bent into a circle when greater capacity is required; that which is already circular admits of no expansion. Our limits permit us to add only a few words more, and they contain almost all that is necessary to be added on the conformation of the horse. The loins should be broad, the quarters long, the thighs muscular, and the hocks well bent and well under the horse.

General Management of Horses.—There is not a more important or more neglected subject than the management of the colt from the earliest period, and the training and fitting him for the duties that he has to perform. The mare is usually at heat at some period in the spring varying from the middle of February to the latter end of May. The age of the foal is reckoned from January; therefore it is a matter of some consequence, especially among sporting men, that the mare should be covered as early in the spring as possible, for two or three months' difference in the age of the colt will materially influence his strength and speed. There is, however, a stranger difference in the length of the period of pregnancy in the mare than in any other domesticated animal. The cause of this or the circumstances that influence it have never been satisfactorily explained. The writer of this sketch had the care of two mares that were impregnated within two days of each other. One of them foaled a fortnight within the eleven months; the other did not drop her foal until four weeks after the expiration of the eleventh month. There was no possibility of a second impregnation.

The mare needs not to be taken from moderate work because she is pregnant. Exercise will be of advantage to her rather than otherwise, and may be continued almost to the period of her expected parturition. She should, however, be carefully watched that her labour pains may not come upon her unawares. She should also, when half of the period of pregnancy is past, have a little addition made to her food. Any possible symptoms of abortion should also be watched, for these will now, if ever, occur. They will probably be attributable to being overworked or not worked at all, or to being overfed or half-starved. It should also be recollected that the mare which has once aborted is subject to a repetition of this accident, and that all the mares in the pasture are subject to the same mishap, from a strange species of sympathy.

There is scarcely a more common or more fatal error than the carelessness of the breeder with respect to the character and value of the mare from which he breeds. Some persons, and perhaps they are not far from the truth, assert that the value of the foal depends a great deal more upon the dam than upon the sire. We may perhaps hesitate to subscribe altogether to this opinion, but she has her full share in the character and value of the colt. If she has been hardly worked, or is blemished or unsound, the foal will suffer: and it should be remembered that there is not a vice or an unsoundness which does not frequently descend to the offspring.

The foal, as soon as it is dropped, should be turned with its dam into a sheltered and good pasture, in which there is a hovel for occasional retreat from the wind and the rain. Some hay or corn, or both, should be allowed, if it is early in the season, or the grass has scarcely begun to shoot. There is nothing so detrimental to the colt as insufficient food. It should be regarded as a fundamental principle in breeding, that, if the growth of the colt is checked by starvation, beauty and energy and stoutness will rarely be displayed in after years.

In five or six months, according to the growth of the foal or the convenience of the farmer, the weaning may take place. The colt should be removed from his former haunts to some distant rick yard, or confined to a stable, until he becomes a little reconciled to the loss of his dam.

Too great a distinction, however, is often made between the colts, according to the labour for which they are destined. The one that is designed for somewhat superior service has a hovel in which he may shelter himself, while the other is probably exposed to the biting blast, with no food but what he can gather from the frozen ground, except perhaps a morsel of hay and straw, and that not of the best quality, when the herbage is buried in the snow. There is nothing gained by this system of starvation: the farmer may depend upon it, that if, from false economy, the colt is half starved and his growth arrested, his value will be materially injured as long as he lives. The author of the work on 'The Extent and Obligation of Humanity to Brutes' thus describes this neglected creature:—"The foal that has been left to struggle on as he can becomes poor and dispirited. He is shrinking under the hedge, cold and shivering, with his head hanging down, and the rheum distilling from his eyes. If he is made to move, he listlessly drags his limbs along, evidently weak, and generally in pain. He is a sad specimen of poverty, misery, and cruelty."

In the ensuing spring the breaking may commence; a process on which will materially depend the temper and value of the horse and the pleasure of the rider. The foal should be handled and haltered, and led about by the servant who has the chief care of him, and whose conduct towards him should always be kind. "The principle," says the author of 'The Horse,' "on which the after-usefulness of the animal is founded, is early attachment to and confidence in man, and obedience, resulting principally from these."

A horse is well broken when he has been taught implicit and cheerful obedience to his rider or driver, and dexterity in the performance of his work. A dogged, sullen, spiritless submission may be enforced by the cruel and brutal usage to which the breaker so frequently has recourse; but that prompt and eager response to the slightest intimation of the rider's will—that manifest aim to anticipate every wish, which gives to the horse so much of his value, must be built on habitual confidence and attachment. The education of the horse should be that of the child. Pleasure should be as much as possible associated with the early lessons; while firmness, or, if need be, coercion, must establish the habit of obedience.

It is surprising how soon, under a system of kind management, the animal who has been accustomed to go where he pleased, and to do as he thought fit, may be taught to yield up his will to another, and to obey with alacrity his master's bidding. If there is a kind-hearted and faithful servant about the farm who will undertake this task, the farmer may be thankful; for, without this, he is often compelled to resign his colt to the tender mercies of the village-breaker—a man who seldom has any conception of obtaining his object by the moral influence which kindness would give him over the youngster, but who has too frequent recourse to violence, and that of the most outrageous kind, until the colt becomes a dull, dispirited, useful, but despised and ill-treated slave through life, or, cherishing a deep feeling of wrong and a spirit of revenge, becomes determinedly vicious and dangerous.

Having weathered the first winter, the education of the farmer's horse may be pursued to a still greater extent. He may be bitted. How much depends upon the application of this little coercive instrument, the bit! The first bit should always be a small one. It may be contrived so as not to hurt the mouth in the slightest degree. The colt may be permitted to champ and to play with it, an hour or two at a time, for a few successive days. Then portions of the harness may be put upon him; and, by and by, the winkers; and, a little after that, he may go as centre horse in a team of three. If he has been kindly and well managed, it is a great chance if he does not go quietly enough, and, in a day or two, begin to pull with the rest. Not many days need to pass before the most difficult of all the manœuvres of the cart, the backing, is tried, and it will succeed oftener than they who see the horrible cruelties that are inflicted on the mouth of the horse would think to be possible. The author of this sketch is not advocating the humouring and spoiling of the horse, but he is showing how many lessons may be inculcated by patience and kindness which brute force would fail to accomplish.

The breaking being accomplished, the management of the horse will vary according to his breed and destination; but the good usage of our domesticated slaves should be regarded as a principle that ought never to be violated. The agricultural horse is seldom overworked, and on large farms is generally well fed; perhaps, in many cases, too much above his work. This however is an error on the right side.

There are many acts of cruelty committed in the farmer's stable, resulting more from carelessness and thoughtlessness than absolute brutality. In almost every stable there is some horse more powerful or greedy than his neighbours, who robs them of the greater part of their share of the food. The victims are usually either old or young horses with imperfect mouths. The farmer's stable should be oftener divided into separate stalls than it usually is. The simple bails afford a very insufficient security against the thefts of a greedy neighbour. The farmer would certainly reap the advantage of this altered plan in the increased health of some of his team, and their increased capability of labour.

Connected with this is another circumstance, with regard to which the farmer should be always on the alert—the stupid and cruel dislike which the carter frequently entertains towards some particular horse in his team. This is a crime that should never be forgiven: nor should the secret administration of certain favourite and powerful, and, too frequently, injurious, drugs. This practice is often carried to an extent that is scarcely credible. The person who practises this imposition, whatever be his motives—often connected with the wished-for good appearance of his team—should be immediately dismissed, and it should be a golden rule, that no drug should be kept or used in the stable without the master's knowledge and permission.

One more simple but invaluable appendage to the stable is *the nose-bag*. In order that the lungs of the horse may have their full play, and especially that the speed of the horse may not be impeded, an exceedingly small stomach was given to him. It is, consequently, soon emptied of food, and hunger, and languor, and indisposition and inability to work speedily succeed. At length food is set before him; he falls ravenously upon it; he swallows it faster than his contracted stomach can digest it; the stomach becomes overloaded; he cannot, from the peculiar construction of that organ, get rid of the load by vomiting, and the stomach or some of the vessels of the brain become ruptured, and the animal dies. The farmer attributes this to an unknown or accidental cause, and dreams not that it is, in the great majority of cases, to be traced to voracious feeding after hard work and long fasting. The nose-bag is a simple and kind contrivance, and an effectual preventive. No cart-horse on a journey of more than four or five hours should be suffered to leave the farmer's yard without it.

A very slight inspection of the animal will always enable the owner to determine whether he is too well fed or not sufficiently fed. The size of the horse, and the nature of the work, and the season of the year, will make considerable difference in the quantity and the quality of the food. The following accounts will sufficiently elucidate the general custom:—"Mr. Harper, of Bank Hall, Lancashire, ploughs seven acres per week, the year through, on strong land with a team of three horses, and allows to each weekly two bushels of oats, with hay, during the winter six months, and, during the remainder of the year, one bushel of oats per week. Mr Ellman, of Glynde, in Sussex, allows two bushels of oats, with pease-haulm or straw, with but very little hay, during the winter months. He gives one bushel of oats, with green food, during the summer."* There is very little difference in the management of these two gentlemen, and that probably arising from circumstances peculiar to their respective farms. The grand principles of feeding, with reference to agricultural horses, are to keep the animal rather above his work, to give him good and wholesome food, and, by the use of the nose-bag or other means, never to let him work longer than the time already mentioned without being baited.

The horse of quick work, the stage-coach horse and the poster, should be allowed as much as he will eat, care being taken that no more is put into the manger than he will readily dispose of. The quantity actually eaten will depend on the [illegible] of work and the natural appetite of the horse, but it [illegible] be averaged at about 66 pounds of chaff, 17½ pounds of [illegible] and 77 pounds of oats per week. When the work is [illegible] hard the quantity of oats may be diminished, that [illegible] increased, and a portion of barley added.

[illegible]'s horse, ridden occasionally to market, but more [illegible] draught, should not be the slow, bulky animal of former times, but a slight degree taller than the road-horse, with his shoulder thicker and less slanting, stout and compact, and having a little, and but a little, of the blood-horse in him. A good judge of the horse has said, and it sums up the character of the animal, that "he should have weight enough to throw into the collar, and sufficient activity to go over the ground." The farmer's horse may not be often overfed, but he is seldom overworked, and, except in the hay and corn harvest, his employment is easy and near to his stable; but when his powers begin to be impaired—when the pleasure or the profit of the master is interfered with—when, from accident occurring in his master's service, and even attributable to the master, he becomes weakened or lame,—what is then his destiny? He is sold to the first purchaser,—he goes to a place of far harder work and less comfort,—and he has to wear out the rest of his life, his food curtailed and his work cruelly increased. This is one of the greatest blots on the character of the farmer.

The Road Horse is a most valuable animal, and difficult to be met with in perfection. The degree of breeding which he possesses should vary according to the nature of the country and the degree of exertion required from him. The level country will require speed and breeding: where the surface is irregular, more strength will be needed. If the road-horse or hackney is half-bred, it will, generally speaking, be all that will do him good. More would give too great slenderness to his form, and destroy the beauty of the trot. His height should be about 15 hands and an inch, with his form compact, and every joint well knit.

The head of the hackney should be rather small, and the neck inclining to be thin towards the head. The head will then be well set on, and it will form that angle with the neck which will give a light and pleasant mouth. The shoulders, compared with those of the race horse, and even of the hunter, should have a little more substance or thickness, and they should slope backwards at a considerable angle from the point of the shoulder to the withers, at which point there should be an evident degree of thinness and elevation. The arms should be compact and muscular, exhibiting considerable bulk in proportion to the height of the horse. The bones beneath the knee should be deep and flat—as much so immediately under the knee as they are above the fetlock. The fore legs should be perfectly straight; for a horse with his knees bent, although but to a slight degree, will, from many a trifling cause, and especially if he is considerably overweighted, be liable to fall. The form and state of the feet are of the greatest consequence. In a few words, they should be of a size evidently corresponding with the general bulk of the animal. They should neither be too hollow—showing a tendency to contraction, nor too flat—either the consequence of disease, or exposing the sole to occasional bruises. The foot should be open at the heels, and free from corns and thrushes. The pasterns should be so united to the leg at the fetlock that the feet may neither turn inwards nor outwards. Of these two evils the turning of the feet inwards is the worst. The pastern should be short, with sufficient obliquity to give pleasant action, but not enough to render the horse incapable of the wear and tear of constant or hard work.

The hackney is most valuable for the pleasantness of his paces, his safety, good temper, and endurance. If he is equal to 8 or 10 miles an hour, the owner should be satisfied. Horses that have extraordinary fleetness on the road are not always pleasant to ride, and it is their too usual fate to be disabled and comparatively worthless when the slower horse is in his prime.

The early history of the hackney perhaps differs a little from that of the farmer's horse: he is better taken care of during the first winter, he has a hovel in which he may shelter himself, and he has an allowance of hay, and perhaps of corn. The winter passes away, and he has suffered little, and during the early part of the spring he gets his new coat, and is full of spirits and vigour. In the second year comes the breaking-in, and, with occasional exceptions, he suffers not a little from the ignorance and brutality of the breaker. The exceptions to this, although they may be comparatively few and far between, should not be suffered for one moment to exist. The hackney is destined for the immediate service of the master, and much of his after character and the pleasure derived from him depend upon the manner in which the breaking is performed. There is, as in the inferior horse, one thing absolutely indispensable—the colt, previously almost as free as the air, must be taught to yield up his will to another, and to obey with alacrity his master's bidding. Generally speaking this is easily accomplished. It demands only a certain degree of firmness, mingled with kindness, and this task is, in the majority of cases, readily accomplished. If the animal is, at the first, somewhat disposed to resist, mingled firmness and kindness will rarely fail to obtain a victory.

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* [illegible] Agricultural Survey of Sussex, pp. 278 and 311.

The faults which will oftenest require correction in the hackney are fear and restiveness.

Gentle treatment will rarely or never fail to overcome fear. The disinclination of the colt to come into contact with the object should be quietly but firmly resisted, and then, by succeeding in persuading him that there is no ground of alarm, an unpleasant and dangerous habit is broken at once. The pretended fear which the colt will occasionally exhibit is a species of affectation that may be as readily, and must be very determinedly, resisted. The quadruped has occasionally as much affectation as the human being, and it is fortunate for him, as well as his owner, when this is put down with all possible promptness.

Restiveness is defined, by the author of a recent work on 'Humanity to Brutes,' to be "a compound of mischievousness and stubbornness, the will of the horse being directly opposed to that of the rider." "Now," says this writer, "the most zealous advocate for the humane treatment of animals will readily admit that the man must be master and the quadruped must obey. The only question is as to the means of enforcing obedience. Correction may occasionally be necessary, but the grand secret is to foil the horse with his own weapons. If severity is resorted to, it should not be until all other means have failed. There should be no trial of strength between the biped and the quadruped, for that will probably again and again terminate in a drawn battle which will be renewed on the first opportunity. The horse may fret and exhaust himself, but the rider must be quiet. If he will stand still, he should do so until he is tired, or he should be made to walk backwards. If he endeavours to turn round, he should be made to accomplish a whole instead of a half circle, so that he shall be precisely where he was before. Nineteen horses out of twenty will soon be convinced of the inutility of a struggle like this, and after having repeated the experiment two or three times, with precisely the same result, will submit, and become useful and attached servants. If, however, he continues a brute, he must be got rid of, or proper coercion must be applied."

The Hunter used chiefly to differ from the road-horse in standing an inch or two higher, and possessing more blood. He was at least three-quarters bred, with small head and thin neck, and therefore light in the hand; the crest firm and arched, the jaws wide, and consequently the head well set on and the mouth light and pleasant. The forehand was higher than that of the racer, and although the shoulder was somewhat thicker, the saddle was in its proper place. The barrel was rounder than that of the race-horse, that there might be more room for the lungs to play when the pace was becoming distressing; the leg was shorter and deeper; the pastern shorter, yet retaining considerable obliquity; and the foot sound; the body short and compact, the loins broad, the quarters long, the thighs muscular, and the hocks well bent and well under the horse. This was the hunter of former days, that would carry his master to the covert side, and keep his place in the field during a run of two or even four hours, and find his way home again unhurt and not distressed.

It is now, however, the fashion to breed the hunter chiefly for speed. He is seldom required to keep up with the hounds more than three-quarters of an hour, and often less; he therefore is a very different kind of horse from what he was. He is the race-horse somewhat more sturdily bred. This makes considerable difference in the arrangements of the stud and of the field. The hunter of the present day is comparatively seldom ridden to cover, but a second horse is provided, intrusted to some groom who knows the country, and brings him to the spot where he is most likely to meet his master. The chase is then generally prolonged without distress to either horse.

The spare horse, however, is not always forthcoming when wanted, for the chase may have taken a contrary direction to that which was expected. Then comes a duty of which the horse will not remind the rider until his strength is rapidly wasting, although the attentive and humane sportsman will scarcely overlook it. The pace begins to droop—the flank heaves convulsively—there is a peculiar convulsive action of the diaphragm. These will be sufficient indications of distress, and no horse should be urged on after he has unequivocally exhibited them. It would be an act of injustice and cruelty for which no excuse can be urged. The loss of a little blood, or the administration of some cordial medicine, and slow leading to the nearest stable, are the best restoratives at the moment of distress; although the cordial would be absolutely destructive a few hours afterwards, when inflammation has commenced.

There is one abuse of hunting that has lately crept in, chiefly advantageous to horse-dealers, and established for their peculiar purposes, but which is an outrage to humanity—the *steeple-chase*. That these noble animals should be urged at their utmost speed over all sorts of ground, and with every dangerous obstacle in their way, is a practice unsanctioned by any good and legitimate object, and which should be put down by the expression of universal detestation.

During the sporting season the hunter is well fed, and with that kind of food which contains a great proportion of nutriment in little compass. A small quantity of hay, rarely more than eight or ten pounds per day, is allowed, and less than that on the day before work. The quantity of corn may vary from 14 to 16 lbs. daily. There is a prejudice in most hunting stables, and probably well founded, against chaff, and it is seldom that the beans and oats are bruised. A bran-mash is given after a day of more than usual fatigue, and is serviceable at other times when there has not been more than ordinary work, provided that at least two days are suffered to elapse before the horse is again taken into the field.

The hunting season having passed, the horse used to be turned into the field as soon as the grass had begun fairly to sprout, and there, with his feed or two feeds of corn daily, and his hovel, into which he might retreat from the sun or the storm, he remained until the middle of June, or the flies began to be troublesome. It was delightful to see how much he enjoyed this short period of liberty; and well had he earned it. Of late years however it has become the fashion to confine him to his box, whence he stirs not except for an hour's walking exercise on the road, until he is taken into training for the next winter's business.

Nothing can be so erroneous or cruel as this. There are few horses that have not materially suffered in their legs and feet before the close of the hunting season. There cannot be anything so refreshing to their feet as the damp coolness of the herbage which they tread at that period, and there is no physic which so safely and effectually as the spring grass carries off every humour that may be lurking in their frame.

The training of the hunter for his work is a simple affair. It is, by means of exercise and of physic, by getting rid of superfluous fat and flesh, without debilitating him. The physic is useful; it is indispensable; but the gradually to accustom him to the exertion of every power that he possesses, without too much hurrying his breathing or overstraining him.

The training of the race-horse is of a similar character with that of the hunter, but it is far more severe, for his strength, his speed, and his endurance must be tested to the utmost. The hunter has to carry his rider gallantly and well through perhaps a long burst, and, if he tires, and the sportsman has the good sense and humanity to cease to urge him on, the greatest evil is some temporary suffering to him, and disappointment to his master; but if the race-horse breaks down, or if his capabilities have not been accurately calculated, the most serious loss may be sustained. Thence arises the necessity of straining and of testing every power in the preparation of the turf-horse; and thence too it happens, from the strange and impolitic sacrifice of the endurance of the modern racer to speed during short distances, that so many young horses break down and become perfectly useless in their training: this, however, requires further elucidation.

There has been considerable dispute with respect to the origin of the British RACE-HORSE. The earliest record of the British horse in its living state is given by Julius Cæsar in his history of the invasion of Britain. The army of the natives was accompanied by numerous war-chariots drawn by horses. But geological inquiries have proved that the fossil remains of this animal are occasionally found in caverns, and under masses of rock, where they had rested for ages prior to this event.

The British horses were very numerous as well as effective at the time of the invasion of the island by the Romans under Julius Cæsar. When Cassibellaunus had dismissed the main body of his army, he retained four thousand war-chariots, for the purpose of harassing the enemy. (Cæsar, *De Bell. Gall.* v. 18.)

During the occupation of this island by the Romans, the British horse was crossed to a considerable extent by the Romans, and yet, very strangely, no opinion is given by any historian as to the effect of this. After the death of Alfred, and under the reign of Athelstan, several *running* horses were imported from Germany. One can scarcely doubt that some effect was produced on the native breed; yet no historian records either the improvement or deterioration.

In the reign of Henry I. is an account of the earliest importation of the Arab horse. It was presented by Alexander I., King of Scotland, to the Church of St. Andrews, with many valuable accoutrements, and a considerable estate. History however is silent as to the purpose to which this animal was devoted, and what ultimately became of him.

About the middle of the 12th century Smithfield was recognised as the principal horse-market and race-course. Fitz-Stephen, who lived at that period, gives the following description of the contests between the *hackney* and *charging* steeds:—"A shout is raised, and the common horses are ordered to withdraw out of the way, while the jockeys prepare themselves for the contest. The horses on their part are not without emulation—they tremble and are impatient and constantly in motion. At length, the signal once given, they start, devour the course, and hurry along with unremitting swiftness. The jockeys, inspired with the thought of applause and the hope of victory, clap spurs to their willing horses, brandish their whips, and cheer them on with their cries." While this description reminds us of the races of the present day, it must be recollected that these were contests between the English horses, and before the Eastern blood was tried.

The Crusades soon followed, and afforded admirable opportunities for improving the British breed; but a spirit of superstition and fanaticism occupied the minds of the warriors, and common sense and sterling usefulness were utterly forgotten.

Edward III. was a zealous patron of the course, and with good judgment began to cross our heavy breed with horses of a lighter structure and greater speed. He purchased a considerable number of Spanish horses. He evidently succeeded to a considerable extent, for the English horse then began to be valued in other countries, and its exportation was prohibited under considerable penalties.

Richard II. and the Henries pursued the same course, except that they were still stricter in their prohibitions, and more eager to gain by their speculations than to extend the improvement of the breed. That improvement indeed, much as it was valued, had scarcely extended beyond those crosses from which little good could have been expected, and had more reference to the heavy carriages and bad roads and consequent slow travelling which then prevailed than to the noble changes in the horse, as well as in the country, which were destined to be effected in the course of a few centuries.

More regular races than had hitherto taken place were now established in various parts of the kingdom. The earliest of these exhibitions were at Chester and Stamford. There was, however, no recognised breed of running horses, but all sorts mingled together, and none were excluded. It was not until the last year of the reign of James I. that rules for the regulation of the respective courses were established.

The course owes much to this king, for it was he who first ventured on that grand improvement in breeding, the introduction of horses from distant countries. He purchased an Arabian horse from a merchant named Markham, for which he gave the enormous price, at that time, of 500*l.* This horse when trained was deficient in speed. The Duke of Newcastle, who then managed the sporting concerns of the king, took a dislike to him on this account, and no one had sufficient courage to demand that his breed should be put to the test, and for the greater part of a century the Arabian breed was regarded with almost perfect contempt.

A south-eastern horse—the beautiful WHITE TURK—was introduced in the protectorate of Cromwell. He was followed by the Helmsley Turk, the Marocco barb, and a variety of horses of similar descent; and thus a beauty of form, and a degree of speed and stoutness, to which an approach had scarcely been observed in the original breeds, were obtained. It was left, however, for Mr. Darley to bring the race-horse to his utmost state of perfection. He had always thought that the Arabian purchased from Markham had not been fairly treated, and he commissioned his brother to procure another Arabian of promise, and to send him to England. He met with one that was bred in the desert, in the neighbourhood of Aleppo.

The beauty of his form was immediately recognised, for it embraced every point that could be desired in a race-horse. From him descended, with few exceptions, every celebrated horse from that period to the present. His immediate offspring was the Devonshire or Flying Childers, bought of Mr. Childers by the Duke of Devonshire, and the fleetest horse of his time. He ran over the round course at Newmarket—three miles six furlongs and ninety-three yards—in six minutes and forty seconds; and the Beacon course—four miles one furlong and one hundred and thirty-eight yards—in seven minutes and thirty seconds.

The Bleeding or Bartlett's Childers, another son of the Darley Arabian, was never trained for the turf, but his form sufficiently spoke for itself. A great many of the first horses of their day owned him as their sire, and the two Childers were soon acknowledged as the only genuine source of the turf-horse. At the head of them stands the unrivalled Eclipse, of whose speed no correct estimate was ever formed; for, although he contended with some of the best of his day, he never met with an opponent sufficiently fleet to put his powers fairly to the test. He was, therefore, soon withdrawn from the turf for want of a competitor, and he became the sire of the extraordinary number of 334 winners, who brought to their owners more than 160,000*l.*, exclusive of plates and cups. King Herod, a descendant of Flying Childers, was the sire of no less than 497 winners, who gained for their proprietors upwards of 200,000*l.*

It has been imagined that the turf-horse has considerably degenerated since this period. This is not true. The breed is more numerous, and superiority is not easily obtained among so many competitors. If anything could produce degeneracy, it would be the absurd and cruel habit of bringing the colt to the starting-post too soon. Childers and Eclipse did not run until they were five years old, but too many horses that probably would have shown equal excellence with those in former times are foundered and destroyed before that period.

The history of the racing colt in the present day has in it much that is interesting, and a great deal that is in the highest degree disgraceful to the turf. The first six months of the racer are usually spent happily enough. He is with his dam, well sheltered, well fed, and every want anticipated, in order that his frame and his powers may be fully developed in the least possible time: but then comes the spirit of curiosity and of speculation. The owner is anxious to know whether his yearly stock will be worth the expense of keeping, and they are haltered at three months old; the mouth is begun to be formed, and before autumn has closed in they are under the care of the training-groom.

The system of management is much improved. The training-groom possesses more real knowledge of his business, and there is far more humanity exercised than there used to be. In a very great proportion of the training stables the full exertion of the power and speed of the colt is oftener obtained by kind usage than by brutal cruelty.

By and by comes the day of real contest. The course is a short one. It is little more than a quarter of a mile, but their fleetness and their strength are put fully to the test. This is occasionally repeated, in order that the trainer or the owner may be put in full possession of the powers and promise of the animal. At two years old the course is lengthened to three-quarters of a mile, and the speed is again fully tested.

There does not, at the first glance, appear much cruelty in this; but the system will not bear examination. It must be essentially wrong to call thus severely on the power of any animal before the period at which its strength is developed. The horse so abused can comparatively seldom attain the state of perfection for which he was designed. He may exhibit strength and speed, extraordinary for his age, but he is rarely able to sustain the reputation that he acquires. His bones never acquire their proper strength; the muscles never attain their full power; and at no remote period, either he deceives his backers and is publicly disgraced, or it is seen that he is getting old, although not arrived at the pride of youth, and he is withdrawn from the course. This is a disgraceful state of things. The capabilities and powers of a noble and useful animal are prematurely exhausted, and many a year of valuable and pleasing existence lost. And what becomes of these victims of folly and cruelty? They are disposed of as soon as may be, and, generally speaking, doomed to a life of torture, in order to save the expense of keep, and to make room for other stock. There is something cold-blooded and disgraceful in all this. A friend of the author, well known on the turf, says that "this early training is a decided outrage on nature. It is one of the iniquitous parts of the system of turf-gambling which probably will not cease so long as pecuniary interest is the predominant feature of this transaction."

Were another year granted,—were the general date of the appearance of the young horse on the course three years instead of two,—the spirit of sheer gambling would be somewhat curtailed; many a good horse would be saved from the sad fate of those that are cast, and the owner would rarely be out of pocket.

On a fair view of the turf, however, there is considerably less cruelty exercised than there was thirty years ago. The training for and the running of the four-mile courses were accompanied by a great deal of barbarity. The number of those who die in the training, or in the running, is materially diminished. There are numerous accounts of the horse dropping and dying in contesting the four-mile course, and sometimes there were more outrageous heats than these. The starting-post of the *six-mile* course once stood near Six-mile Bottom at Newmarket. The horses are not so much punished in their running as they used to be. No jockey of the present day would dare to disgrace himself by the atrocities that were formerly committed. It is now understood that, when a horse is exerting the utmost extent of his stride, and is straining every muscle and every limb from a natural principle of emulation, the working of the bit, or the moderate application of the whip or spur, may keep him up to the mark: but when he has wound up "each corporal agent to the terrible feat," the infliction of sudden torture will necessarily disturb the harmony of action, and throw the animal quite abroad. Many a race has been lost by the infliction of wanton cruelty. A bad-tempered horse immediately *shuts up*. He is sure to abate or lessen his exertion if he is severely punished when doing his best. Great praise is due to Sir Charles Bunbury for having set the example of humanity in this respect. No spurs were worn when some of his horses, of rather awkward temper, were ridden. The owner or the jockey will, however, be the best judge of the proper manner of riding in particular cases.

The Cavalry Horse.—The character of this horse differs materially, according to the nature of the service required and the caprice of the commanding officer. The horses of the household troops are probably not so large and so heavy as formerly; but they are still from half to three-fourths bred, and there are no foreign troops that can resist their charge. At the battle of Waterloo they were highly instrumental in deciding the fate of the day. The heavy cavalry are generally more than half-bred: the lighter have still more blood. In training the cavalry, as well as the race-horse, a great deal more is to be done by kindness; the system of management is now materially altered, and many cruel contrivances of former days are no more to be heard of. The writer of this sketch has had frequent opportunities of seeing the comparative ease with which the horse is now taught its duty, the delight with which he seems to practise every manœuvre, and the affection that he cherishes for his own master, and also the trooper for him. Their affection for their companions is also very strong.

The Coach Horse.—The better kind are *the Cleveland bays*, mostly bred in the country between Northumberland and Lincoln, and particularly about Cleveland and the Vale of Pickering. The Cleveland mares, at least those that have been kept for breeding purposes, have materially improved within the last 30 or 40 years. They are taller, with better withers, yet sufficient roundness of the barrel, and flatter and deeper legs. These mares are crossed by a three-part bred horse, or sometimes by a thorough-bred one, that has sufficient substance and height, arched crest and high action. The foal is either the tall coach-horse—the true Cleveland bay; or he is the four-in-hand, or curricle-horse, or sometimes the hunter, and of the best description, or the better kind of saddle-horse. If the sire was only half-bred, we have the post-chaise or coach-horse, the hackney, and the horse of common work.

Dealers at the proper season attend the fairs in this district, and every part of the kingdom is thence supplied with horses for show, and, to a great degree, for usefulness. Even the royal stables thence obtain their chiefest ornaments.

The *Old* Cleveland horse is almost, or quite, extinct, and his place supplied in the manner just described. So is *the old Suffolk Punch*, the product chiefly of Suffolk and some of the neighbouring districts. He usually varied from 15 to 16 hands in height, and was of a sorrel colour. He was large-headed, low-shouldered, broad and low on the withers, deep, and yet round-chested; long in the back, large and strong in the quarters, round in the legs, and strong in the pasterns. He would throw his whole weight into the collar, and had sufficient hardihood and strength to stand a long day's work. The pure breed is, however, passed away, and was succeeded by a cross between the half or three-parts-bred Yorkshire with the old Suffolk. He is taller than the former horse, somewhat higher and firmer about the shoulders, with sufficient quickness of action and honesty to exert himself to the utmost at a dead pull, whilst the lowness of the withers enables him to throw immense weight into the collar.

Another and exceedingly valuable breed is the *Heavy Draught Horse*, found usually in the line of country from Lincolnshire to Staffordshire, and lately improved by a cross with the Flanders breed. These are often purchased by the Berkshire and Surrey farmers at two years old, worked moderately until they are four—earning their keep during the whole of the time, and then sent to the London market at a considerable profit.

A dray horse should have a broad breast, thick and upright shoulders, a low foreband, a deep and round frame, the loins broad and high, the forearms and thighs thick, the legs short, the hoofs round, the heels broad, and the sole not too flat. The largest of these horses are used as dray-horses, the next as waggon-horses, and a smaller variety, with more blood, is employed by the undertaker, while the greater part of our regiments of cavalry are supplied by them. The larger ones—the dray-horses of the metropolitan and other brewers—are adapted more for parade and show, more to gratify the ambition which one brewer has to outvie his brethren, than for any peculiar utility. They are certainly noble-looking animals, but they eat their full share of provender, and, in hard and continued work, they would be completely beaten by an equal number of hardy muscular horses more than an inch lower. The introduction of the Flemish breed has materially improved this horse, where the roads are not too heavy, and, for road work generally, as in the coal-waggons of the metropolis, and the heavier loads of the wharf, the midland black, with all his unwieldy bulk, must be left untouched.

Until the establishment of the railroads, the stage-coach horse stood high in point of utility and value. In conducting a racing establishment, it would soon be perceived what colts would *train on*, and what would ultimately break down, and, except there was much neglect in the management of the establishment, the unsound and weak legged ones were sold, and a considerable proportion of them found their way to the fast coaches. They had the requisite speed, and strength enough to last for a considerable time. A great improvement also, either from fashion or good feeling took place in the management of the stage-coach horse. He was no longer half starved, as well as over-driven, but sufficiently fed and nothing exacted from him but his own proper daily labour, while he was always fully equal to, or above, his work. The consequence of this was, that he required little urging forward by the torture of the whip, and there was a marked change in point of humanity in the conduct and character of the driver. Every one accustomed to travel in the public carriages will cheerfully and thankfully acknowledge the improvement that had taken place in this respect.

The length of the stages was materially diminished, and the proprietors having one horse in four always at rest, each of them had the advantage of one rest day in four. Nimrod, a competent judge in these matters, has asserted, in his amusing work on The Chase, the Turf and the Road, that "no animal toiling solely for the profit of man leads so easy and comfortable a life as the stage-coach horse. He is sumptuously fed and kindly treated, he has 23 hours in the 24 of rest. He is, except from his own fault, almost a stranger to the lash, we rarely see him with a broken skin, but we do often see him kicking up his heels when taken from his work, after having performed his stage of 10 miles within the hour."

This pleasing picture, however, too frequently had its shades. The system of over-training and over-feeding to which the horse was subject before he came on the road was undermining his constitution: every disease in him took an inflammatory character, his legs were peculiarly liable to accident, and strains and other evils frequently occurred, which required a peculiarly severe mode of treatment, and the horse was unavoidably made to suffer dreadfully. Perhaps the evil was never perfectly remedied. The animal was never competent to undertake his lighter work, but he was attached to the heavier coaches, or transplanted to those concerns of atrocious cruelty, the night coaches. Then commenced that loss of character, and diminution of usefulness, and increase of misery, which were the fate of thousands of horses every year. This is a picture of the stage-coach horse on the good roads, and under the best management. The reader shall not be disgusted with an account of the cruelties that took place in the by-roads, and under the management of inferior men.

Railroads have now been introduced in almost every direction, and the quickness and less expensiveness of the journey have, in many parts of the country, comparatively destroyed the business of the postmaster. The horses passed into other hands, and sunk to more degrading and painful labours, but of late their sky is again somewhat brightening. The exportation of horses of this class to the Continent has increased to a degree that never could have been anticipated. These horses are destined for the cavalry service of different countries. They are such as could not be procured on the Continent, and the work that will be exacted from them will not, in the majority of instances, ever develop their latent imperfections.

Of the sad cruelties practised on the hackney-coach horses, on the day and night cab-horses, and on those that belong to the costermonger and inferior tradesman, nothing is here recorded, but if the dog, a beast of draught in so many other countries, is, we scarcely know why, no longer to be employed in this occupation, there ought to be some strong enactments to protect those poor, old, debilitated, half-starved animals on whom the whole labour will fall.

There is only space for a few remarks on some of the smaller breeds of horses.

The Galloway derives its name from the district in which it is bred, in the south of Scotland. There are records of it as early as the time of Edward I. Dr. Anderson thus describes one of them:—"I possessed one of these horses when a boy. In point of elegance of shape it was a perfect picture, and was perfectly gentle and manageable. It moved almost with a wish and never tired. I rode this little creature for 25 years, and twice in that time I rode him 150 miles without stopping except to bait, and that not for above an hour at a time. It came in at the last stage with as much ease and alacrity as it travelled at first." The Galloway was about 14 hands high, of a bright bay or brown, with black legs, small head and neck, and peculiarly deep and clean legs. Its qualities were speed, stoutness, and surefootedness. One of them is said to have performed the extraordinary feat of 1000 miles in 1000 hours.

The true Galloway is now seldom met with. It was destroyed in the fruitless attempt to increase the size of the animal, and to retain all its peculiar good qualities as a pony. The small horses that are sold under the name of Galloways are mostly from Wales or the New Forest, and still retain many of the good qualities belonging to Merlin and to Old Marsh. The Welsh pony is often a beautiful animal, and can scarcely be tired. The New Forester evinces the source whence he sprung, by his spirit, speed, and endurance.

The Exmoor ponies are far from being so handsome as the Welsh, but they are hardy and useful. The Dartmoor ponies are still more deficient in beauty of form, but well suited to the country in which they are bred.

The Highland pony partakes of all the hardihood of the others, but is slower and somewhat unpleasant in his paces. The Shetlander is the most beautiful of the inhabitants of the northern islands, although of a very diminutive size, varying from 7½ to 9½ hands in height. He is described as having a small head, a good-tempered countenance, and a short neck becoming gradually fine upwards. The shoulders are low and thick, the back short, the quarters expanded and powerful, the legs flat and fine, and the foot retains its natural form even in old age.

In some of the richer districts of Ireland many horses of considerable value are reared. They are mostly, however, inferior in appearance to the English horses. The head is too large, the legs too long, the hips too ragged, but with great power in the quarters. There is much depth of leg, and the animal is hardy, courageous, and unrivalled as a leaper.

Of the general anatomical structure of the horse there is not room in this short essay to give any satisfactory account, but there is one part of him which must not be passed over without especial notice, namely, his foot. This is a truly admirable piece of mechanism, and deserves to be well understood. It simply consists of a horny case or covering for the protection of the sensitive parts within, and extends from the termination of the hair to the ground. It is deepest in front, where it is called *the toe*, lower at the sides or *quarters*, and of least extent behind at *the heel*. It is placed in a sloping or slanting position, forming an angle, which, in the healthy foot, is about 45 degrees. Any deviation from this is considered a defect. If it is more oblique than this, it indicates a flatness of the sole, or even a protrusion of it downwards, constituting a pumiced or convex foot—a very great evil, as it exposes the sole to bruises or undue pressure. If the crust or box is too upright, it indicates a tendency to contraction, thrush, and inflammation, an upright pastern, and jolting unpleasant pace. These are serious deviations from a natural state of the foot, and should be immediately recognised by the observer. The crust is thickest in front, and becomes gradually thinner towards the quarters and heels. This thinness is greatest on the inner quarter, or inner portion of the crust, and more weight is thrown upon it than upon the outer quarter. This may seem at first view to be rather singular, but it is a wise provision of Nature, in order that the elasticity of that part may be brought more into play, and dangerous concussion lessened or avoided. The nails are often driven too close on the inner quarter, the consequences of which are corns, contraction, and sand-crack.

The foot often varies greatly in magnitude in proportion to the general bulk of the horse. This is a considerable evil. A large foot not unfrequently becomes objectionable from its striking the opposite leg; on the other hand, the large foot will not sink so readily into soft ground, and consequently not demand so great an effort of strength to extricate it. In general, broad or flat-footed horses possess the greatest strength; small and narrow-footed ones have superior speed. Both, within certain limits, possess their respective advantages and disadvantages. Large bulky hoofs are weaker than others, in consequence of being composed of a thin, soft, porous horn. Small feet generally possess a close-woven horn, but are deficient in circularity of figure, with great depth of substance, and of a more durable nature.

On account of the superior weight which it bears, the inner heel wears away more quickly than the outer one. It will often be scarcely necessary to remove any horn from the inner heel, for that is already effected by the wear of the foot. The smith frequently forgets this, and pares away all round with his butteris or his knife, and thus, leaving the inner quarter lower than the outer, throws an uneven bearing upon it, and produces corns, sand-cracks, and splints, and various other evils. The depth of the horn in the front of the toe, measuring from the termination of the skin, is on an average about three inches or three inches and a half, and its thickness varies from three-eighths of an inch to half an inch; but near the top, and at the inside, it is found to be scooped or hollowed out, and contains or covers a thickened prolongation, falsely called the coronary ligament, for it has no ligamentous substance belonging to it. It is a collection of blood-vessels bound together by a fibrous texture, and its office is to supply any loss of substance in the hoof that may be occasioned by accident or disease, and also to secrete the substance of the wall or crust of the feet.

The crust or hoof is composed of fibres running perpendicular from the coronet to the ground in front, and at the quarters, taking an oblique direction forwards. This construction enables the foot to expand when it comes in contact with the ground, and this expansion permits the gradual descent of the bones of the foot, and obviates much concussion. It is in order that this expansion may readily take place, that the crust, as has been already stated, is thinnest at the quarters and towards the heels.

On the inside of the crust are numerous narrow, thin plates or processes, arranged in the nicest order, and with almost mathematical precision. They extend parallel to each other in a perpendicular direction from immediately beneath the coronary ligament to the junction of the wall with the sole, and are so thickly set that every part of the crust is occupied by them. They are likewise continued over the surface of the bars, of which mention will presently be made. They are about 500 in number, broadest at their base, and terminating in the most delicate expansion of horn. They correspond with similar leaves projecting from the coffin-bone, or internal bone of the hoof, and thus present a most extraordinary superficies for the attachment of the coffin-bone. The laminæ from the coffin-bone and those from the hoof form a complete union, which, for strength and elasticity combined, may vie with any piece of animal mechanism that is known. It has been calculated that the united superficies, in a foot of tolerable size, will yield a surface of attachment equal to 212 square inches, or nearly one square foot and a half. This is a contrivance to prevent concussion which may well excite our admiration.

The Bars are processes of the wall of the foot, inflected obliquely across the bottom of the foot, along and outside of the frog. The slightest consideration will show that their office is both to admit of and to limit to its proper extent the expansion of the foot. When the weight of the animal is thrown on the laminæ, these arches will shorten and widen in order to admit of the expansion of the quarters, and, when that expansive power ceases to act, the bar will return to its usual curve, and the foot will regain its usual form. It is strange that, even at the present day, the farriers should maintain their combination to get rid of this beautiful and useful contrivance of nature. Although every foot from which the bars are removed becomes more or less contracted at the quarters, old prejudices prevent them from tracing the connexion of cause and effect. The owner of the horse should lay it down as a principle, from which his farrier should never be permitted to deviate, that the bars of the foot shall never be cut away.

The Sole is the arched plate at the bottom of the hoof, and it is one of the most important parts of the foot. Thousands of horses are ruined by the mass of horn which is suffered to accumulate on it, and, occasionally, the sole is materially injured and wounded by it. The natural thickness of the sole is about one-sixth of an inch, but that which forms a union with the bars is nearly double the thickness of the other parts. In its natural state it is to a certain degree hollow, and thus it has the capacity of descending with the weight of the horse. A flat sole cannot descend lower. This also is a circumstance that the smith should be compelled to attend to.

The Frog is the prominent triangular body occupying the chasm between the bars. It extends forwards towards the toe about two-thirds of the distance between the toe and the heel. It is of a cuneiform figure, not a little resembling a plough-share. It consists of two rounded or projecting surfaces, with a fissure or cleft between them, but uniting about half way down the foot, and forming a wedge with the sharp point forwards, in order to give security to the tread of the horse. It assists also in a material degree in the expansion of the foot. Thus the diminution of the substance of the frog, and its elevation above ground, must be injurious. The rough and detached parts may be removed, but the substance of the frog should always be left *just above or within the level of the shoe.*

Our account of the distinctive character of the different breeds of horses has prepared us for a short history of their general management.

The *watering* of the horse is a very important but disregarded portion of his general management. The kind of water has not been sufficiently considered. The difference between what is termed *hard* and *soft* water is a circumstance of general observation. The former contains certain saline principles which decompose some bodies, as appears in the curdling of soap; and prevent the decomposition of others, as in the making of tea, the boiling of vegetables, and the process of brewing. It is natural to suppose that these different kinds of water would produce somewhat different effects on the animal frame, and such is the fact. Hard water, freshly drawn from the well, will frequently roughen the coat of the horse unaccustomed to it, or cause griping pains, or materially lessen the animal's power of exertion. The racing and the hunting groom are perfectly aware of this; and so is the horse, for he will refuse the purest water from the well, if he can obtain access to the running stream, or even the turbid pool. Where there is the power of choice, the softer water should undoubtedly be preferred.

The temperature of the water is of far more consequence than its hardness. It will rarely harm if taken from the pond or the running stream, but its coldness when recently drawn from the well has often been injurious; it has produced colic, spasm, and even death. It should therefore be exposed for some hours, either in the stable or in some tank.

There is often considerable prejudice against the horse being fairly supplied with water. It is supposed to chill him, to injure his wind, or to incapacitate him for hard work. It certainly would do so if, immediately after drinking his fill, he were galloped hard, but not if he were suffered to quench his thirst more frequently when at rest in the stable. The horse that has free access to water will not drink so much in the course of a day as another who, in order to cool his parched mouth, swallows as fast as he can, and knows not when to stop.

On a journey a horse may with perfect safety be far more liberally supplied with water than he generally is. An hour before his work commences he should be permitted to drink a couple of quarts. A greater quantity might probably be objected to. He will perform his task far more pleasantly and effectively than with a parched mouth and tormenting thirst. The prejudice both of the hunting and the training groom on this point is cruel as well as injurious. The task or the journey being accomplished, and the horse having breathed a few minutes, another quart, or even two, will be delightfully refreshing to him, and will never do him harm. His corn may then be offered to him, which he will readily take; and before he has eaten the whole of it two or three more quarts of water may be given.

Towards the close of the day the speed of the traveller should somewhat abate, and the horse should arrive at his resting-place as dry and as cool as circumstances will permit. If he is hot he must be walked about awhile, or the perspiration will return in the stable. If he is wet he must be carefully rubbed dry. The sooner this is done the better; and after he is clothed, watered, fed, and bedded, he should as soon as possible be left to his repose. Professor Stewart, of Glasgow, has lately published a very useful work on the 'Stable Economy, or General Management of Horses.' We abridge his account of 'the kinds of work, and the preparation for them.'

Travelling.—The horse should undergo some degree of training as to the pace, the distance, and the burden. When there has been no preparation, the stages must at first be short, and the pace gentle. For a journey of 300 miles the horse may travel from 20 to 25 miles a-day, resting on the Sunday, and doing the work in two stages, at the pace of six miles an hour. This requires a seasoned horse, and the number of working hours per day is about four.

Hunting requires speed and stoutness. The pace seldom exceeds 12 miles an hour, and the run is short, soon over, or interrupted; yet soft sinking ground, hills, and leaps make this pace severe even on the best horses. The time for preparation varies from two to four months. On the day before work the horse should have exercise enough to empty the bowels. If he is a good feeder he should have no hay within eight hours of starting, nor water within four hours, nor corn within three hours; but if he has five or six miles to go to cover, these restrictions are less necessary. The working days will vary according to his condition and the hardness of the running. He may be able to go out every second day, and sometimes not more than once in six or seven. His spirits and appetite, and the state of his legs, will decide this. Even on the blank days some exercise should be taken, in order to evacuate the bowels and create an appetite.

Coaching.—The horses are best prepared for their work by good feeding and gradual increase of speed and distance. The ordinary length of a stage is eight miles; so that a horse is required for every mile, or a coach running between two places 40 miles distant employs 40 horses to take it away and bring it back. The pace being calculated at from nine to eleven miles an hour, no horse works quite an hour in the day, and some not more than three-quarters of an hour, except that, occasionally, an able horse may perform a double journey in order to relieve a sick companion.

Carting.—Cart-horses usually work from eight to ten hours, six days in the week. The pace varies from two miles to three and a half per hour, and the weight which he pulls rarely exceeds 24 cwt., besides the cart, which probably is eight or ten more. All beyond this in weight or in time of work is cruel.

Ploughing.—The average work is about eight hours in the day. The severity of it depends on the pace, the nature of the soil, and the breadth of the furrow-slice. The pace is from a mile and a half to two miles per hour; the furrow varies from eight inches to eleven, and the distance travelled is from twelve to sixteen miles. The horse and the man can well support this as long as the ploughing season continues.

Diseases of Horses.—It may be readily supposed that the animal doomed to the manner of living which every variety of the horse experiences will be peculiarly exposed to numerous forms of suffering. Every natural evil will be aggravated, and many new and formidable sources of pain and death will be superadded.

Interest and humanity require that we should become acquainted with the nature and causes and remedy of the diseases of the horse. Only a slight sketch of them can be given here, but sufficient perhaps to enable the owner to recognise their existence, to avoid their causes, and to induce him, without dangerous delay, to apply to the proper quarter for their removal or alleviation.

The principal diseases of the horse are connected with the circulatory system. From the state of habitual excitement in which the animal is kept, in order to enable him to execute his task, the heart and the blood-vessels will often act too impetuously. The vital fluid will be hurried along too rapidly, either through the frame generally or some particular part of it, and there will be *congestion*, accumulation of blood in that part, or *inflammation*, either local or general, disturbing the functions of some organ or of the whole frame.

Congestion.—Take a young horse on his first entrance into the stables; feed him somewhat highly, and what is the consequence? He has swellings of the legs, or inflammation of the joints, or perhaps of the lungs. Take a horse that has lived somewhat above his work, and gallop him to the top of his speed: his nervous system becomes highly excited—the heart beats with fearful rapidity—the blood is pumped into the lungs faster than they can discharge it—the pulmonary vessels become gorged, fatigued, and utterly powerless—the blood, arrested in its course, becomes viscid, and death speedily ensues. We have but one chance of saving our patient—the instantaneous and copious abstraction of blood; and only one means of preventing the recurrence of this dangerous state, namely, not suffering too great an accumulation of the sanguineous fluid by over-feeding, and by regular and systematic exercise, which will inure the circulatory vessels to prompt and efficient action when they are suddenly called upon to exert themselves. The cause and the remedy are sufficiently plain.

Again, the brain has functions of the most important nature to discharge, and more blood flows through it than through any other portion of the frame of equal bulk. In order to prevent this organ from being oppressed by a too great determination of blood to it, the vessels, although numerous, are small, and pursue a very circuitous and winding course. If a horse highly fed, and full of blood, is suddenly and sharply exercised, the course of the blood is accelerated in every direction, and to the brain among other parts. The vessels that ramify on its surface or penetrate its substance are completely distended and gorged with it. Perhaps they are ruptured, and the effused blood presses upon the brain; it presses upon the origins of the nerves on which sensation and motion depend, and the animal suddenly drops powerless. A prompt and copious abstraction of blood, or, in other words, a diminution of this pressure, can alone save the patient. Here is the nature, the cause, and the treatment of *apoplexy*.

Sometimes this disease assumes a different form. The horse has not been performing more than his ordinary work, or perhaps he may not have been out of the stable. He is found with his head drooping and his vision impaired. He is staggering about. He falls, and lies half unconscious, or he struggles violently and dangerously. There is the same congestion of blood in the head, the same pressure on the nervous origins, but produced by a different cause. He has been accustomed habitually to overload his stomach, or he was, on the previous day, kept too long from his food, and then he fell ravenously upon it, and ate until his stomach was completely distended and unable to propel forward its accumulated contents. Thus distended, its blood-vessels are compressed, and the circulation through them is impeded or altogether suspended. The blood is still forced on by the heart, and driven in accumulated quantity to other organs, and to the brain among the rest; and there congestion takes place, as just described, and the animal becomes sleepy, unconscious, and, if he is not speedily relieved, he dies. This too is apoplexy; the horseman calls it *stomach staggers*. Its cause is improper feeding. The division of the hours of labour, and the introduction of the *nose-bag*, have much diminished the frequency of its occurrence. The remedies are plain,—bleeding, physicking, and the removal of the contents of the stomach by means of a pump contrived for that purpose.

Congestions of other kinds occasionally present themselves. It is no uncommon thing for the blood to loiter in the complicated vessels of the *liver*, until the covering of that viscus has burst, and an accumulation of coagulated black blood has presented itself. This congestion constitutes the *swelled legs* to which so many horses are subject when they stand too long idle in the stable, and it is the source of many of the accumulations of serous fluid in various parts of the body, and particularly in the chest, the abdomen, and the brain.

Inflammation is opposed to *congestion*, as consisting in an active state of the capillary arterial vessels: the blood rushes through them with far greater rapidity than in health, from the excited state of the nervous system by which they are supplied.

Inflammation is either *local* or *diffused*. It is confined to one organ, or to a particular portion of that organ; or it involves many neighbouring ones, or it is spread over the whole frame. In the latter case it assumes the name of *fever*. Fever is general or constitutional inflammation, and is said to be *sympathetic* or *symptomatic* when it can be traced to some local affection or cause, and *idiopathic* when we cannot so trace it. The truth probably is, that every fever has its local cause, but we have not a sufficient knowledge of the animal economy to discover that cause.

Inflammation may be considered with reference to the membranes which it attacks.

The *mucous membranes* line all the cavities that communicate with the external surface of the body. There is frequent inflammation of the membrane of the mouth. *Blain*, or *Glossanthrax*, is a vesicular enlargement which runs along the side of the tongue. Its cause is unknown. It should be lanced freely and deeply, and some aperient medicine administered. *Barbs*, or *paps*, are smaller enlargements, found more in the neighbourhood of the bridle of the tongue. They should never be touched with any instrument: a little cooling medicine will generally remove them. *Lampas* is inflammation of the palate, or enlargement of the bars of the palate. The roof of the mouth may be slighted lanced, or a little aperient medicine administered; but the sensibility of the mouth should never be destroyed by the application of the heated iron. *Canker* and wounds in the mouth from [illegible] s, will be best remedied by diluted tincture of myrrh, or a weak solution

Foreign bodies in the gullet may generally be removed by means of the probang used in the hoove of cattle; or the oesophagus may be opened, and the obstructing body taken out.

It is on the mucous membranes that *poisons* principally exert their influence. The *yew* is the most frequent vegetable poison. The horse may be saved by timely recourse to equal parts of vinegar and water injected into the stomach, after the poison has been as much as possible removed by means of the stomach-pump. For arsenic or corrosive sublimate there is rarely any antidote.

Spasmodic colic is too frequently produced by exposure to cold, or the drinking of cold water, or the use of too much green meat. The horse should be walked about, strong friction used over the belly, and spirit of turpentine given in doses of two ounces, with an ounce each of laudanum and spirit of nitrous æther, in warm water or ale. If the spasm is not soon relieved the animal should be bled, an aloetic ball administered, and injections of warm water with a solution of aloes thrown up. This spasmodic action of the bowels, when long continued, is liable to produce *introsusception*, or *entanglement*, of them, and the case is then hopeless.

Superpurgation often follows the administration of a too strong or improper dose of physic. The torture which it produces will be evident by the agonised expression of the countenance, and the frequent looking at the flanks. Plenty of thin starch or arrowroot should be given both by the mouth and by injection; and, twelve hours having passed without relief being experienced, chalk, catechu, and opium should be added to the gruel.

Worms in the intestines are not often productive of much mischief, except they exist in very great quantities. Small doses of emetic tartar with a little ginger may be given to the horse half an hour before his first meal, in order to expel the round white worm; and injections of linseed-oil or aloes will usually remove the ascarides, or needle-worms.

The *respiratory passages* are all lined by the mucous membrane. *Catarrh*, or *cold*, inflammation of the upper air passages, should never be long neglected. A few mashes or a little medicine will usually remove it. If it is neglected, and, occasionally, in defiance of all treatment, it will degenerate into other diseases. The larynx may become the principal seat of inflammation. *Laryngitis* will be shown by extreme difficulty of breathing, accompanied by a strange roaring noise, and an evident enlargement and great tenderness of the larynx when felt externally. The windpipe must be opened in such case, and the best advice will be necessary. Sometimes the subdivisions of the trachea, before or when it first enters the lungs, will be the part affected, and we have *bronchitis*. This is characterized by a quick and hard breathing, and a peculiar wheezing sound, with the coughing up of mucus. Here too decisive measures must be adopted, and a skilful practitioner employed. His assistance is equally necessary in *distemper*, *influenza*, and *epidemic catarrh*, names indicating varieties of the same disease, and the product of atmospheric influence; differing to a certain degree in every season, but in all characterised by intense inflammation of the mucous surfaces, and rapid and utter prostration of strength, and in all demanding the abatement of that inflammation, and yet little expenditure of vital power.

Cough may degenerate into *inflammation of the lungs*; or this fearful malady may be developed without a single premonitory symptom, and prove fatal in twenty-four or even in twelve hours. It is mostly characterized by deathly coldness of the extremities, expansion of the nostril, redness of its lining membrane, singularly anxious countenance, constant gazing at the flank, and an unwillingness to move. A successful treatment of such a case can be founded only on the most prompt and fearless and decisive measures. The lancet should be freely used. Counter-irritants should follow as soon as the violence o.

the disease is in the slightest degree abated; sedatives must succeed to them, and fortunate will he be who often saves his patient after all the decisive symptoms of pneumonia are once developed.

Among the consequences of these severe affections of the lungs are *chronic cough*, not always much diminishing the usefulness of the horse, but strangely aggravated at times by any fresh accession of catarrh, and too often degenerating into *thick wind*, which always materially interferes with the speed of the horse, and in a great proportion of cases terminates in broken wind. It is rare indeed that either of these diseases admits of cure. That obstruction in some part of the respiratory canal, which varies in almost every horse, and produces the peculiar sound termed *roaring*, is also rarely removed.

Glanders, the most destructive of all the diseases to which the horse is exposed, is the consequence of breathing the atmosphere of foul and vitiated stables. It is the winding up of almost every other disease, and in every stage it is most contagious. Its most prominent symptoms are a small but constant discharge of sticky matter from the nose; an enlargement and induration of the glands beneath and within the lower jaw, on one or both sides, and, before the termination of the disease, chancrous inflammation of the nostril on the same side with the enlarged gland. Its contagiousness should never be forgotten, for, if a glandered horse is once introduced into a stable, almost every inhabitant of that stable will sooner or later become infected and die.

The urinary and genital organs are also lined by mucous membranes. The horse is subject to *inflammation of the kidneys* from eating musty oats or mowburnt hay, or from exposure to cold, and injuries of the loins. Bleeding, physic, and counter-irritants over the region of the loins should be had recourse to. *Diabetes*, or *profuse staling*, is difficult to treat. The inflammation that may exist should first be subdued; and then opium, catechu, and the uva ursi administered. *Inflammation of the bladder* will be best alleviated by mucilaginous drinks of almost any kind. *Inflammation of the neck of the bladder*, evinced by the frequent and painful discharge of small quantities of urine, will yield only to the abstraction of blood and the exhibition of opium. A catheter may be easily passed into the bladder of the mare, and the urine evacuated, but it will require a skilful veterinary surgeon to effect this in the horse. A *stone in the bladder* is readily detected by the practitioner, and may be extracted with comparative ease. The sheath of the penis is often diseased from the presence of corrosive mucous matter. This may easily be removed with warm soap and water.

To the mucous membranes belong the conjunctival tunic of the eye, and the diseases of the eye generally may be here considered. A *scabby itchiness* on the edge of the eye-lid may be cured by a diluted nitrated ointment of mercury. *Warts* should be cut off with the scissors, and the roots touched with lunar caustic. *Inflammation of the haw* should be abated by the employment of cooling lotions, but that useful defence of the eye should never, if possible, be removed. Common *ophthalmia* will yield as readily to cooling applications as inflammation of the same organ in any other animal; but there is another species of inflammation, commencing in the same way as the first, and for a while apparently yielding to treatment; but which changes from eye to eye, and returns again and again, until blindness is produced in one or both organs of vision. The most frequent cause is hereditary predisposition. The reader cannot be too often reminded that the qualities of the sire, good or bad, descend, and scarcely changed, to his offspring. How *moon-blindness* was first produced no one knows; but its continuance in our stables is to be traced to this cause principally, or almost alone, and it pursues its course until cataract is produced, for which there is no remedy. *Gutta serena* (palsy of the optic nerve) is sometimes observed, and many have been deceived, for the eye retains its perfect transparency. Here also medical treatment is of no avail.

The serous membranes are of great importance. The brain and spinal marrow, with the origins of the nerves, are surrounded by them; so are the heart, the lungs, the intestinal canal, and the organs whose office it is to prepare the generative fluid.

Inflammation of the Brain.—Mad staggers fall under this division. It is inflammation of the meninges, or envelopes of the brain, produced by over-exertion, or by any of the causes of general fever, and it is characterised by the wildest delirium. Nothing but the most profuse blood-letting, active purgation, and blistering the head, will afford the slightest hope of success. *Tetanus*, or *Locked Jaw*, is a constant spasm of all the voluntary muscles, and particularly those of the neck, the spine, and the head, arising from the injury of some nervous fibril—that injury spreading to the origin of the nerve—the brain becoming affected, and universal and unbroken spasmodic action being the result. Bleeding, physicking, blistering the course of the spine, and the administration of opium in enormous doses, will alone give any chance of cure. *Epilepsy* is not a frequent disease in the horse, but it seldom admits of cure. It is also very apt to return at the most distant and uncertain intervals. *Palsy* is the suspension of nervous power. It is usually confined to the hinder limbs, and sometimes to one limb only. Bleeding, physicking, antimonial medicines, and blistering of the spine, are most likely to produce a cure, but they too often utterly fail of success. *Rabies*, or madness, is evidently a disease of the nervous system, and, once being developed, is altogether without remedy. The utter destruction of the bitten part with the lunar caustic, soon after the infliction of the wound, will however, in a great majority of cases, prevent that development.

Pleurisy, or inflammation of the serous covering of the lungs and the lining of the cavity of the chest, is generally connected with inflammation of the substance of the lungs; but it occasionally exists independent of any state of those organs. The pulse is in this case hard and full, instead of being oppressed; the extremities are not so intensely cold as in pneumonia; the membrane of the nose is little reddened, and the sides are tender. It is of importance to distinguish accurately between the two, because in pleurisy more active purgation may be pursued, and the effect of counter-irritants will be greater, from their proximity to the seat of disease. Copious bleedings and sedatives here also should be had recourse to. It is in connexion with pleurisy that a serous fluid is effused in the chest, the existence and the extent of which may be ascertained by the practised ear, and which in many cases may be safely evacuated.

The heart is surrounded by a serous membrane, the pericardium, that secretes a fluid, the interposition of which prevents any injurious friction or concussion in the constant action of this organ. If this fluid increases to a great degree, it constitutes *dropsy of the heart*, and the action of the heart may be impeded or destroyed. In an early stage it is difficult to detect, and in every stage difficult to cure.

The heart itself is often diseased; it sympathises with the inflammatory affection of every organ, and therefore is itself occasionally inflamed. *Carditis*, or *inflammation of the heart*, is characterised by the strength of its pulsations, the tremor of which can be seen, and the sound can be heard at a distance of several yards. Speedy and copious blood-letting will afford the only hope of cure in such a case.

The outer coat of the stomach and intestines is composed of a serous membrane, the peritoneum, which adds strength and firmness to their textures, attaches and supports and confines them in their respective places, and secretes a fluid that prevents all injurious friction between them. This coat is exceedingly subject to inflammation, which is somewhat gradual in its approach. The pulse is quickened, but small; the legs cold: the belly tender; there is constant pain, and every motion increases it: there is also rapid and great prostration of strength. These symptoms will sufficiently characterise *peritoneal inflammation*. Bleeding, aperient injections, and extensive counter-irritation will afford the only hope of cure.

The time for *castration* varies according to the breed and destiny of the horse. On the farmer's colt it may be effected when the animal is not more than four or five months old, and it is comparatively seldom that a fatal case then occurs. For other horses, much depends on their growth, and particularly on the development of their fore quarters. Little improvement has been effected in the old mode of castrating, except the opening of the scrotum, and the division of the cord by the knife, instead of the heated iron.

Synovial or *joint membranes* are interposed between the divisions of the bones, and frequently between the tendons, in order to secrete a certain fluid that shall facilitate motion and obviate friction. Occasionally the membrane is lacerated, and the synovia escapes. This is termed *opened joint*, and violent inflammation rapidly ensues. The duty of the practitioner is to close this opening as quickly as possible. Nothing is so effectual here as the application of the cautery. A great deal of inflammation and engorgement are produced around the opening, partially, if not altogether, closing it; or at least enabling the coagulated synovia to occupy and obliterate it. Perhaps, in order to secure the desired result, the whole of the joint should be blistered. After this a bandage should be firmly applied, and kept on as long as it is wanted. If there is any secondary eruption of the synovia, the cautery must again be had recourse to.

The Navicular Disease is a bruise, or inflammation, or perhaps destruction, of the cartilage of the navicular bone, where the flexor tendon of the foot passes over it in order to reach the coffin-bone. The veterinary surgeon can alone ascertain the existence and proper treatment of this disease. *Spavin* is an enlargement of the inner side of the hock. The splint-bones support the inferior layer of those of the hock, and as they sustain a very unequal degree of concussion and weight, the cartilaginous substance which unites them to the shank-bone takes on inflammation. It becomes bony instead of cartilaginous, and the disposition to this change being set up in the part, bony matter continues to be deposited, until a very considerable enlargement takes place, known by the name of *spavin*, and there is considerable lameness in the hock-joint. The bony tumour is blistered, and probably fired, but there is no diminution of the lameness until the parts have adapted themselves, after a considerable process of time, to the altered duty required of them, and then the lameness materially diminishes, and the horse becomes, to a very considerable extent, useful. *Curb* is an enlargement of the back of the hock, three or four inches below its point. It is a strain of the ligament which there binds the tendons down in their place. The patient should be subjected to almost absolute rest; a blister should be applied over the back of the tumour, and, occasionally, firing will be requisite to complete the cure. Near the fetlock, and where the tendons are exposed to injury from pressure or friction, little bags or sacs are placed, from which a lubricating mucous fluid constantly escapes. In the violent tasks which the horse occasionally has to perform these become bruised and inflamed, and enlarged and hardened, and are termed *windgalls*. They blemish the horse, but are no cause of lameness after the inflammation has subsided, unless they become very much enlarged. The cautery will then be the best cure. Immediately above the hock enlargements of a similar nature are sometimes found, and, as they project both inwardly and outwardly, they are termed *thorough-pins*. They are seldom a cause of lameness, but they indicate great and perhaps injurious exertion of the joint. On the inside of the hock a tumour of this kind, but of a more serious nature, is found. It is one of these enlarged mucous bags, but very deeply seated and the subcutaneous vein of the hock passing over it. The course of the blood through the vein is thus in some measure arrested, and a portion of the vessel becomes distended. This is a serious evil, since, from the deep-seatedness of the mucous bag, it is almost impossible to act effectually upon it. It is termed *bog* or *blood spavin*.

The cellular tissue which fills the interstices of the various organs, or enters into their texture, is the seat of many diseases. From the badness of the harness, or the brutality of the attendant, the poll of the horse becomes contused. Inflammation is set up, considerable swelling ensues. An ulcerative process soon commences, and chasms and sinuses of the most frightful extent begin to be formed. The withers also are occasionally bruised, and the same process takes place there, and sinuses penetrate deep beneath the shoulder, and the bones of the withers are frequently exposed. These abscesses are termed *poll evil* and *fistulous withers*, and in the treatment of them the horse is often tortured to a dreadful extent. A better mode of management has however been introduced: setons are passed through the most dependent parts; no collection of sanious fluid is permitted to exist, and milder stimulants are applied to the surface of the ulcer.

An abscess of a peculiar character is found between the branches of the lower jaw in young horses. It is preceded by some degree of fever. It is usually slow in its progress, but at length it attains a considerable size, including the whole of the cellular tissue in that neighbourhood. There is one uniform mass of tumefaction. This is *strangles*. It seems to be an effort of nature to get rid of something that oppresses the constitution, and the treatment of it is now simple and effectual. It is encouraged by fomentations and blisters. It is punctured as soon as the fluctuation of a fluid within it can be fairly detected—the pus speedily escapes, and there is an end of the matter.

Farcy.—While the arterial capillaries are engaged in building up the frame, the absorbents are employed in removing that which is not only useless, but would be poisonous and destructive. They take up the matter of glanders and of every ulcerating surface, and they are occasionally irritated, inflamed, and ulcerated from the acrimonious nature of the poison which they carry. The absorbents are furnished with numerous valves. The fluid is for a while arrested by them, and there the inflammation is greatest, and ulceration takes place. This is the history of the farcy cords and buds. Farcy is a highly contagious disease, whether or not it be connected with glanders. It, however, occasionally admits of cure from the application of the cautery to the buds, and the administration of the corrosive sublimate or the sulphate of iron internally.

The skin of the horse is subject to various diseases. Large pimples or lumps suddenly appear on it, and, after remaining a few days, the cuticle peels off, and a circular scaly spot is left. This is called *surfeit*. The cause is obscure, but principally referrible to indigestion. A slight bleeding will always be serviceable. Physic rarely does good, but alteratives composed of nitre, black antimony, and sulphur will be very beneficial. *Mange* is a disease of a different character. It is the curse of the stable into which it enters, for it will almost certainly affect every horse. Thorough dressings with Barbadoes tar and linseed-oil, in the proportion of one of the former to three of the latter, will be the most effectual external application, while alteratives and physic should be given internally. *Hide-bound* is a very appropriate term for the peculiar sticking of the hide to the ribs when a horse is out of condition. The subcutaneous adipose matter is all absorbed. The alterative above recommended will be very useful here.

The legs, and the hind ones more than the fore ones, are subject to frequent and great and obstinate swellings, attended by great pain and considerable fever. It is acute inflammation of the cellular substance of the legs. Physic and diuretics, and tonics if there is the slightest appearance of debility, are the proper means of cure. Friction and bandages will also be useful occasionally. There is no disease in which the farrier and the groom do greater mischief than in this.

Grease is an undue secretion of the fluid which was designed to lubricate the skin of the heels, and that secretion is also altered in quality. The hind legs begin to swell—a fluid exudes from the heels—the hairs of the heels become erect like so many bristles, and the skin of the heel is hot and greasy. Soon afterwards cracks appear across the heel; they discharge a thick and offensive matter, and then deepen. They spread up the leg, and so does the tumefaction of the part. In process of time the skin, inflamed and ulcerated, undergoes an alteration of structure; prominences or granulations appear on it, assuming the appearance of a collection of grapes, or the skin of a pine-apple. They increase, and a fœtid discharge appears from the crevices between them.

The cause is generally neglect of the horse. He is suffered to stand in the stable with his heels cold and wet, which necessarily disposes them to inflammation and disease.

In the first stage of grease, bran or turnip or carrot poultices will be serviceable, with moderate physic. Then astringents must be employed, and the best are alum or sulphate of copper in powder, mixed with several times the quantity of Bole Armenian, and sprinkled on the sores. These should be alternated every three or four days. The grapy heels are a disgrace to the stable in which they are found, and admit not of radical cure.

Splints are bony enlargements, generally on the inside of the leg, arising from undue pressure on the inner splint-bone, and this either caused by the natural conformation of the leg or violent blows on it. These excrescences will often gradually disappear, or will yield to a simple operation, or to the application of the hydriodate of potash or blister ointments. *Sprains*, if neglected, occasionally become very serious evils. Rest, warm fomentations, poultices, or, in bad cases, blistering, are the usual remedies. *Windgalls*, if they are of considerable size, or accompanied by much inflammation or lameness, will find in a blister the most effectual remedy. *Sprains of the fetlock* demand prompt and severe blistering. Nothing short of this will produce a permanent cure. *Sprains of the pastern and coffin-joints* demand still more prompt and decisive treatment. If neglected or inefficiently managed, the neighbouring ligaments will be involved, more extensive inflammation will be set up, and bony matter, under the name of *ring-bone*, will spread over the pasterns and cartilages of the foot. Firing alone will, in the majority of cases, be efficient here.

Inflammation of the foot, or acute founder.—In speaking of the structure of the foot, the laminæ, or fleshy plates on the front and sides of the coffin-bone, were described. From over-exertion, or undue exposure to cold or wet, or sudden change from cold to heat, inflammation of these laminæ is apt to occur, and a dreadfully painful disease it is. It is easily detected by the heat of the feet, and the torture which is produced by the slightest touch of the hammer. The shoe must be removed, the sole well pared out, plentiful bleeding from the toe had recourse to, the foot well poulticed, and cooling medicines resorted to. The bleeding should be repeated if manifest benefit is not procured, and cloths dipped in dissolved nitre, which are colder than the common poultice, should be substituted. After this a poultice around the foot and pastern should succeed. Little food should be given, and that must consist of green meat or mashes.

Pumiced Feet.—This is one of the consequences of inflamed feet. The sole of the foot becomes flattened, or even convex, by the pressure of the weight above. There is no cure here, and the only palliation of the evil is obtained from the application of a shoe so beveled off from the crust that it shall not press upon or touch the sole. This, however, is only a temporary palliation, for the sole will continue to project, and the horse will be useless.

Contracted Feet.—By this is meant an increase in the length of the foot, and a gradual narrowing as the heels are approached; and, as the necessary consequence of this, a diminution of the width of the foot and a concavity of the sole. In point of fact, the whole of the foot, including the coffin-bone, becomes narrowed, and consequently elongated. This change of form is accompanied by considerable pain; the action of the horse is altered; there is a shortened tread, and a hesitating way of putting the foot to the ground.

The frog and heel would expand when the weight of the horse descends and is thrown upon them, but the nailing of the shoe at the heels prevents it. Thence the pain and lameness. Mr. Turner of Regent-street obviates this by a very simple method. He puts four or five nails in the shoe on the outside, and only two on the inside. There is then sufficient room for the natural expansion to take place, and the foot and action of the horse are little or not at all changed. This is an admirable contrivance, and recourse should always be had to it.

The Navicular Joint Disease.—There are many horses with open and well-formed feet that are lame. In every motion of the foot there is a great deal of action between the navicular bone and the flexor tendon which passes over it in order to be inserted into the navicular bone. From concussion or violent motion, the membrane or the cartilage which covers the navicular bone is bruised or abraded, the horse becomes lame, and often continues so for life. This disease admits of remedy to a very considerable extent: no one, however, but a skilful veterinary surgeon is capable of successfully undertaking it.

Sand-crack is a division of the crust of the hoof from the upper part of it downward. It bespeaks brittleness of the foot, and often arises from a single false step. If the crack has not penetrated through the horn, it must nevertheless be pared fairly out, and generally a coating of pitch should be bound round the foot. If the crack has reached the quick, that *must* be done which ought to be done in every case—a skilful surgeon should be consulted, otherwise false quarter may ensue.

False Quarter is a division of *the ligament* by which the crust is secreted. It is one of the varieties of sand-crack, and exceedingly difficult of cure.

Tread or *Over-reach* is a clumsy habit of setting one foot upon or bruising the other. It should immediately and carefully be attended to, or a bad case of *quittor* may ensue.

Quittor is the formation of little pipes between the crust and the hoof, by means of which the purulent matter secreted from some wound beneath the crust makes its escape. The healing of this, and of every species of *prick* or *wound* in the sole or crust, is often exceedingly difficult.

Corns are said to exist when the posterior part of the foot between the external crust and the bars is unnaturally contracted and becomes inflamed. Corns are the consequence of continued and unnatural pressure. The thorough cure of corns will put the ingenuity of the operator to the trial.

Thrush is the consequence of unnatural pressure on the frog. It is the cause and the effect of contraction, whether it is found in the heels of the fore feet or the hinder ones. It is not difficult of cure when taken in time, but when neglected it often becomes a very serious matter.

Canker is the consequence of thrush, or indeed of almost every disease of the foot. It is attended by a greater or less separation of horn, which sometimes leaves the whole of the sole bare. This also, like the diseases of the foot generally, is difficult of cure.

Few things are more neglected, and yet of greater importance to the comfort and durability of the horse, than a proper system of *Shoeing*. It is necessary that the foot should be defended from the wear and tear of the roads, but that very defence too often entails on the animal a degree of injury and suffering scarcely credible. The shoe is fixed to the foot, and often interferes with and limits the beautiful expansibility of that organ, and thus causes much unnecessary concussion and mischief.

The shoe of a healthy foot should offer a perfectly flat surface to the ground. The bearing or weight of the horse will then be diffused over the surface of the shoe, and there will be no injurious accumulation of it on different points. Too often, however, there is a convexity towards the inner edge, which causes an inequality of bearing, and breaks and destroys the crust. Round the outer edge of the shoe, and extended over two-thirds of it on the lower surface, a groove is sunk, through which pass the nails for the fastening of the shoe. At first they somewhat project, but they are soon worn down to the level of the shoe, which in the healthy foot should not vary from the heel to the toe.

The width of the shoe will depend on that of the foot. The general rule is that it should protect the sole from injury, and be as wide at the heel as the frog will permit.

The upper surface of the shoe should be differently formed. It should be flat along the upper and, outer supporting the crust, or, in other words, the weight of the horse, and widest at the heel, so as to meet and withstand the shock of the bars and the crust. The inner portion of the shoe should be beveled off, in order that, in the descent of the sole, that part of the foot may not be bruised. The owner of the horse should occasionally be present when the shoes are removed, and he will be too often surprised to see how far the smith, almost wilfully, deviates from the right construction of this apparently simple apparatus. The beveled shoe is a little more troublesome to make and to apply than that which is often used by the village smith, but it will be the owner's fault if his directions are not implicitly obeyed.

Even at the commencement of the operation of shoeing the eye of the master or the trustworthy groom will be requisite. The shoe is often torn from the foot in a most violent and cruel way. Scarcely half the clenches are raised when the smith *seizes* the shoe with his pincers, and forcibly wrenches it off. The shrinking of the horse will tell how much he suffers, and the fragments of the crust will also afford sufficient proofs of the mischief that has been done, especially when it is recollected that every nail-hole is enlarged by this brutal force, and the future safety of the shoe to a greater or less degree weakened, and pieces of the nail are sometimes left in the substance of the crust, which become the cause of future disease.

In the paring out of the foot, also, there is frequently great mischief done. The formidable *butteris* is still often found in the smithy of the country farrier, although it is banished from the practice of every respectable operator. A worse evil, however, remains. By the butteris much of the sole was injuriously removed, and the foot was occasionally weakened, but the *drawing-knife* frequently left a portion of sole sufficient to destroy the elasticity of the foot, and to lay the foundation for contraction, corns, and permanent lameness. One object then of the looker-on is to ascertain the actual state of the foot. On the descent of the crust, when the foot is placed on the ground, depends the elasticity and healthy state of the foot, and that may be satisfactorily determined by the yielding of the sole, although to a very slight degree, when it is strongly pressed upon with the thumb. The sole being pared out, the crust on each side may be lowered, but never reduced to a level with the sole, otherwise this portion will be exposed to continual injury.

The heels often suffer considerably from the carelessness or ignorance of the smith. The weight of the horse is not thrown equally on them, but considerably more on the inner than the outer quarter. The consequence of this is that the inner heel is worn down more than the outer, and the foundation is laid for tenderness and ulceration. The smith is too often inattentive to this, and pares away an equal quantity of horn from the inner and outer heel, leaving the former weaker and lower, and less able to support the weight thrown upon it.

Mention has already been made of the use of the *bars* in admitting and yet limiting to its proper extent the expansion of the foot. The smith in the majority of country forges, and in too many of those that disgrace the metropolis, seems to have waged interminable war with these portions of the foot, and avails himself of every opportunity to pare them down, or perfectly destroy them, forgetting, or never having learned, that the destruction of the bars necessarily leads to contraction by removing the chief impediment to it.

The horn between the crust and the bar should be well pared out. Every one accustomed to horses must have observed the great relief that is given to the horse with corns when this angle is pared out, and yet, from some fatality, the smith rarely leaves it where nature placed it, but cuts away every portion of it.

The true function of the frog is easily understood. It gives security to the tread, and contributes to the expansion of the heels; but the smith, although these cases come before him every day, seems to be quite unaware of the course which he should pursue, and either leaves the frog almost untouched, and then it becomes bruised and injured, or he pares it away so that it cannot come into contact with the ground, and consequently is not enabled to do its duty.

The owner of the horse will therefore find it his interest occasionally to visit the forge, and, guided by the simple principles which have been stated, he will seldom err in his opinion of what is going forward there. He should impress two principles deeply on his mind, that a great deal more depends on the paring out of the foot than in the construction of the shoe: that few shoes, except they press upon the sole, or are made shamefully bad, will lame the horse, but that he may be very easily lamed by an ignorant or improper paring out of the foot.

Where the owner of the horse has sufficient influence with the smith, he will find it advisable always to have a few sets of shoes ready made. Much time will be saved, in case of accident, and there will not be, as is too often the case, the cutting and paring and injuring of the foot, in order to make it fit the shoe. More injury than would be readily believed is done to the foot by contriving to get on it too small a shoe.

Clips are often necessary, in order more securely to fasten the shoe. They are little portions of the upper edge of the shoe hammered out, and turned up on the crust, and fitted in a little depression made in the crust. They prevent the shoe from being loosened or torn off, both in rapid action and heavy draught, and are therefore used on all heavy, and on many light horses. They are sometimes placed on the side of the shoe, and at the beginning of the quarters, and on all horses that are accustomed to paw violently with their feet. Necessity alone, however, will justify their use.

The *calkin* is a prolongation and turning down of the shoe at the heel, enabling the animal to dig his toe more firmly into the ground, and with more advantage throw his weight into the collar: but it is an abominable and most injudicious practice to place the calkin on one side alone, as is too often done: an unequal direction and distribution of the weight and bearing of the foot is often given, which is necessarily productive of mischief. Few are the cases which will justify the use of calkins on the fore feet, or even on the hind feet, except they are of equal height on each foot, and few things are more injurious to the foot of the horse than wearing the same shoe more than three weeks or a month, let the work be heavy or light. The shoe should never be heavier than the work absolutely requires. This is acknowledged in the shoe of the hunter and the racer, and will tell in every horse after a hard day's work.

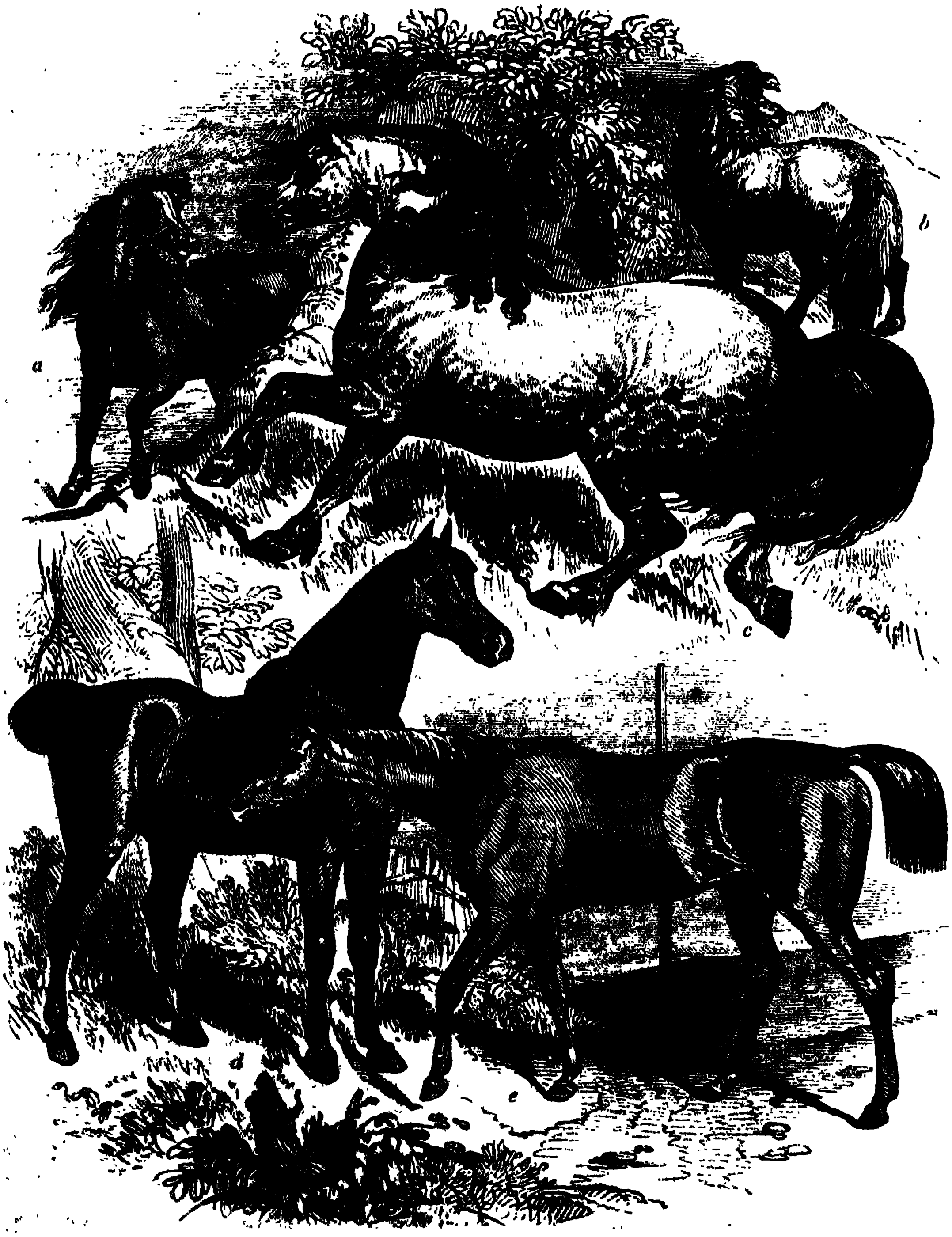
The *bar-shoe* is indispensable in every large stable. It is a very simple contrivance, being nothing more than the continuation of the common shoe over the heels. The bearing of the shoe may thus be taken off from every weak and tender part of the foot, and be either thrown on some other point which is better able to bear the pressure, or diffused over the foot. It is indispensable in cases of bad corns, which are thus protected from injury; in sand-crack, the pressure may be removed from either or both sides of the fissure; pumiced feet may be raised by this shoe above the possibility of injury; and in thrush and in canker not only is the weight thrown off the diseased part, but any kind of dressing may be easily retained on the sore. It is a shoe, however, that cannot be safely used for any considerable time, or, at least, it requires occasional or even frequent change, on account of its being gradually pressed down on the sore part beneath. Bar-shoes are not safe for use when much speed is required, and they are dangerous when frost is on the ground.

The *tip* is a very different kind of shoe. It reaches but half round the crust. It is used when the horse is at grass; and, the quarters of this shoe being unfettered, the contracted foot is sometimes enabled to regain its natural open state. It has been tried for road-work, but, as might naturally be expected, it utterly failed when often or long used.

The *leather shoe* is principally or only useful when the foot has been injured or inflamed. It, to a considerable degree, breaks the shock, which would otherwise be painfully felt when the foot is put on the ground. It consists of a piece of leather or felt, about an inch in width, which is placed between the crust and the shoe, and this very materially obviates concussion. It must not, however, be long worn, for the nails cannot always be driven securely, or there will be too much play upon them, or they will become loosened, and the holes which they accurately filled at first will be enlarged, and the crust will be broken away.

The sole is sometimes entirely covered with leather. This furnishes a temporary defence for the foot, but there is much insecurity of fastening—the tow or other dressing introduced between the sole and the leather, is not always equably distributed, and frequently the stopping produces a scaly spongy horn, or gravel and dirt will gradually accumulate between the leather and the horn, and the foot will be considerably injured.

One other shoe, the invention of Mr. Percival, must be mentioned,—the *horse-sandal*. It consists of a simple apparatus sufficiently light to be carried in the pocket, and which, on the loss of a shoe, can be applied to the foot in the space of a minute, and so securely attached to it that the sportsman may continue the chase to the end of the longest run. The same sandal has been repeatedly worn more than 100 miles. It may be procured from any respectable harness-maker.



a, Welsh Pony; *b*, Shetland Pony; *c*, Cart Horse; *d*, Hunter; *e*, Racer.

THE NATIONAL DEBT AND THE FUNDING SYSTEM.

Every individual member of the British community is affected, either directly or indirectly, by the operations of the National Debt. It is therefore desirable that every one should be enabled to form a clear conception regarding it.

Nature of the National Debt.

It is not easy to account for the erroneous ideas commonly entertained as to the nature of this debt by many persons, who consider it as a deposit or treasure, and a sign of national wealth. Many among those whose means of political knowledge have been circumscribed imagine that, when they purchase a certain amount of stock, they are adding their mite to a huge store of already accumulated wealth; and when, to use a common expression, they have "put their money into the Bank," they are far from conceiving that they have in fact only been substituting themselves for others as national creditors, and must depend for the punctual payment of their dividends, not upon any fund or treasure that exists, but upon the ability of the whole nation to pay them their dividends out of the productive labour of the whole nation, including themselves.

The term "Funds," it is true, is not a happy one for the thing which it is in this case employed to designate. What should we think of an individual in common life calling his debts his funds? Perhaps, after a little reflection, such a person will admit that the wealth can hardly be wealth belonging to the state, which really seems to be the party that owes the money; for no man has imagination enough to continue long to believe seriously that either individual or community can be the richer for being very much in debt. Still, the notion that the funds are wealth has not yet been driven altogether out of his head. If they are not wealth to the state, he will tell you, they are wealth to the creditors of the state—to the fundholders, as they are called; and these being nearly all part of the community, is not the community really richer because of this their wealth?

This is much the same as the reasoning of the Irishman whom the thought suddenly struck of reducing the labour of two persons performing a journey together on foot to half the usual amount by mounting the one upon the other's back. "To be sure it won't relieve both of us at the same time," said he to his friend, "but one at least may give his legs a holiday, if the other must keep tramping; and we can take the ride by turns." The misfortune is that, in these cases, the holiday to the legs of the one partner in the project is anything but a holiday to the back of the other. Upon the whole, therefore, at the end of the experiment, nothing is gained. As for the wealth of the fundholders, it consists entirely in a right which belongs to them of sharing, to a certain extent, in the annual proceeds of the wealth and labour of the rest of the community, including themselves. It resembles the case of any other debtor and his creditor. The right of the latter (so long as his interest is duly paid, and his principal is considered to be safe) is, no doubt, so much wealth to him; but it is precisely an equal subtraction of wealth from the former. The two together are not richer on account of the peculiar relation in which they stand to each other. There is not more wealth between them because there is a debt between them. So the nation, as a whole, is not richer for owing to a portion of its members several hundreds of millions of pounds sterling, notwithstanding that the said members are, no doubt, the richer for having this claim upon the nation. To the exact extent that they are richer, the rest of the community, including themselves, are poorer. Their incomes are simply an incumbrance or burden upon the incomes of the whole community, as appears by the fact that a sum of not much less than twenty-eight millions of pounds sterling is every year raised from the nation for no other purpose except to pay the interest upon the debt which the nation owes.

Well, then, our objector will perhaps still say, the money, at any rate, is neither thrown away, nor does it pass out of our own hands. At most there is merely a transference of a portion of the national income from one part of the community to another. Not a farthing is lost: if some are made poorer, others are made just as much richer than they otherwise would be, by what takes place. Where, then, lies the evil of the national debt when the whole case is taken into view?

The whole case is not taken into view in this reasoning. The evil of the national debt does not lie in its having produced a state of things in which the whole community is largely indebted to a part of the community, and is bound every year to pay to that part a share of its earnings or its income. For anything that appears, this may be in itself a perfectly unobjectionable or a very expedient state of things. It is what must exist to a large extent in every country abounding in capital; and among ourselves, out of the range of the national debt altogether, it is the express purpose of many of our commercial arrangements to bring about and to extend such a state of things; nor could many of our most important commercial speculations be carried on without it. Whenever any man in business has the use of any portion of capital which does not belong to himself, and for which he pays interest, he is contributing to uphold this state of things, and availing himself of its advantages. And it is, no doubt, generally speaking, in the highest degree beneficial for all parties that he should do so. Much capital would otherwise remain altogether unemployed and useless, both to its possessors and to the community; and not only much capital, but much also of the best ability, ingenuity, and capacity for active and efficient industry, that exists in the nation. All commercial associations, such as banking companies, insurance companies, canal and railroad companies, and others that either trade or carry on any particular undertaking with money subscribed or deposited in their hands by individuals, are instances of the operation of the same system. In all these cases the owners of capital lend it to others, who in turn pay them interest for the use of it; and the arrangement is manifestly both a convenient one for the two parties more immediately concerned, and also of great public advantage. How large an amount altogether may thus be paid in this country every year in the form of interest upon loans, dividends upon shares, profits upon investments, annuities, and other returns for capital lent or subscribed, or, in other words, what portion of the annual earnings of those members of the community actively engaged in business is regularly transferred under the effect of such arrangements to those not so engaged, there are no means of ascertaining; but undoubtedly it must be very great.

In the mere state of things, therefore, we repeat, which occasions such a transfer of the proceeds of industry from one part of the community to another, there is not necessarily any evil. On the contrary, it may be the most advantageous and healthy state of things that can exist. The evil of the national debt lies in another consideration altogether. It lies in that peculiarity which, constitutes the very essence of the funding system, and distinguishes it from all ordinary borrowing—*that the money borrowed has been all spent, and is gone;* that is, it has not been used as money borrowed by individuals or associations of individuals is used—that is, for the purpose of profitable employment to the borrowers. A company associated for carrying on some commercial speculation pays dividends to its shareholders; but the capital subscribed is actually in existence; its productive powers are in constant operation for the supply of the demands which the company has to meet. Were it otherwise, the concern could not go on. But, of the immense amount of money borrowed by the nation, and for which it has to pay interest to the lenders, it retains not one farthing. It is paying all this interest out of other capital altogether—out of capital which it would have had as well if there had been no national debt, and which, in that case, it would have had free and unincumbered. On the other hand, if the national debt had never been created, the creditors of the state would have also had all the capital which they have lent to Government in their own hands, and it would of course have been productive to them invested in some other way.

The case would be a very different one if the money borrowed by the nation had really been turned into a fund, as the language commonly used would imply. Then, no doubt, the interest might have been paid without the nation being thereby subjected to any real burden. But the money has always been spent as fast as it has been received, and frequently even before it has been actually collected. Whatever other useful or necessary ends it may have accomplished, it has no more gone to form anything like a fund, in the proper sense of that term, than if it had been cast into the sea.

There are, certainly, other considerations to be looked to besides those to which we have been adverting, before we are in a condition for finally pronouncing upon the whole question of the operation and effects, direct and indirect, in so far as regards the national wealth, of the existence of the national debt. There are, for instance, to be taken into account the amount and value of the employment given and the stimulus applied to the national industry, even by an expenditure on the part of the Government which was in no degree regulated by any views of commercial profit. There is also to be determined the very difficult question of the whole effects upon prices, and upon the operations of trade and commerce generally, produced by the vast amount of Government securities constantly circulating in the money-market, and performing, at least to a certain extent, the functions of a common medium of exchange. These, however, are inquiries we have nothing to do with in the prosecution of our present design, which is merely to explain what the funds really are, and to clear away certain misconceptions or confused notions respecting their nature which the name they are usually called by has a tendency to generate, and which are perhaps more widely prevalent than many persons would suppose.

Certain persons often speak very confidently of the advantage which would result to the nation by wiping out, or "applying a sponge," as it is significantly termed, to the national debt. But such persons speak out of the fulness of their ignorance, and have clearly not considered the question. Others make the more moderate and qualified assertion that the great majority of the nation would be gainers, and that the losers would be comparatively few. But those who contend that the great majority of the nation would be benefited by the unsatisfied extinction of the national debt, and would urge its extinction on this ground, as being precisely the same ground on which many enactments are made, ought to show that the loss occasioned by such extinction will be confined to the immediate losers, to the comparatively small number of public creditors. But it is easy to show that the loss would not be confined to the immediate losers; and this being the case, it is impossible to prove that such extinction will really benefit a great majority. It might happen that it would in its results benefit only a small minority of the actual generation, or even nobody at all; and the allegation of this possible result is a sufficient answer to the assumption made by the advocates of unsatisfied extinction, that the loss incurred would be confined to the immediate losers, and that there would be a real gain to the great majority of the nation. Such an unsatisfied extinction would in effect be a dissolution of innumerable contracts, on the faithful performance of which depends the happiness of many thousands who are not public creditors. It is hardly necessary to remark that the nation would not afterwards find it easy to borrow money from individuals on any reasonable terms for any purpose, however generally useful, or any public necessity, however urgent.

History of the National Debt.

The national debt of this country dates from the Revolution of 1688, although what we now understand by the funding system did not take its commencement till a considerable time after that event. All our old kings had been in the habit of occasionally borrowing money at moments of exigency, but never with any view of creating a permanent national debt. They borrowed, as private individuals still do, with the purpose of repaying the money within a limited time, or as soon as they should be able to do so, and under an engagement to that effect. The loan indeed was commonly sought and obtained in express anticipation of certain revenues, which, as soon as they should have become due, and been collected, were to be applied to its discharge. King William III. likewise at first proceeded in the same manner. Sums of money were, from time to time, borrowed by the crown in anticipation of the produce of the taxes which had been voted by parliament; and several partial repayments of the sums thus borrowed were made. The transaction took place, as heretofore, under the sole authority of the crown. But even the first loans that were obtained for the national service under the sanction of parliament were of the same description. In the speech with which he opened his second parliament, in March 1690, King William said—"I have so great a confidence in you, that, if no quicker or more convenient way can be found for the raising of ready money (without which the service [of the war in Ireland] cannot be performed), I shall be very well content for the present to have it made such a *fund* of credit as may be useful to yourselves, as well as to me, in this conjuncture; not having the apprehension but that you will provide for the taking off all such *anticipations* as it shall happen to fall under." In conformity with this recommendation, the parliament very soon after passed two acts, by which they provided for the raising of two sums of 250,000*l*. and 500,000*l*. by loan; but it was also enacted that the money should be repaid within three years, and certain branches of revenue were expressly set apart for that purpose. It is worthy of remark that, at this time, the term funds was applied in its proper sense, not to the money borrowed, but to the revenues thus appropriated or mortgaged for its repayment.

"In these acts," says a Jacobite writer (Salmon, in his 'Chronological Historian'), "there were clauses empowering the king to anticipate and borrow money on his revenues, as he had desired in his speech, which was the first beginning of the funds, so destructive to the nation. The advice of his pretended friends was—*Borrow what you can; the more you borrow, the more friends you make; interest is a stronger tie than principle.* Accordingly, the ministry gave whatever interest and premiums were demanded for the loan of money; and naval stores and provisions were taken up at 30, 40, and sometimes 50 per cent. The moneyed men, and those that could bear stock, doubled and trebled their fortunes in a very short time."

Although the acts in question, however, no doubt, led to the adoption of the funding system, they cannot correctly be said to have begun that system. They did not provide for the funding of any debt, in the modern sense of that expression. Nor can even the subsequent act passed in 1693, for the establishment of the Bank of England, by which it was enacted that the Bank should make an advance to Government of

1,200,000*l.*, at an interest of eight per cent., without the power of ever demanding the money back, unless the charter should be withdrawn, be properly regarded as the commencement of the present mode of borrowing. The money thus obtained by the state was the price which it received for the grant of certain privileges; and although the state retained the power of revoking the privileges so granted after a certain time, on repaying the money, it could hardly on that account be considered as constituting a debt. The same remark is applicable to the sum of two millions obtained, at the same rate of interest, from the East India Company, on the grant of a charter to it in 1698.

The war with France, which broke out in 1689, and did not terminate till 1697, made it necessary, in the course of this reign, to raise considerable supplies beyond the amount which it was found possible to raise by taxes; and various expedients were resorted to for this purpose. Sometimes recourse was had to lotteries; sometimes annuities for lives, or for terms of years, were granted; sometimes both plans were combined. At last also money began to be borrowed simply on the credit of certain taxes which were imposed or set apart for the payment of the interest and the eventual liquidation of the debt, and which it was enacted should continue until it should be wholly discharged. Even in this case, therefore, the principle of providing for the repayment of the money borrowed may be said to have been kept in view.

The burden, however, which was thus entailed upon the income of the Government soon became very considerable. The taxes which had been set apart for the payment of the interest on loans frequently failed in proving sufficient for that purpose; hence the necessity of new loans to meet the deficiency. Then the rate of interest at which—owing, in part, no doubt, to the yet unconfirmed stability of the new order of things—the Government was able to borrow money during the whole of this reign, was extremely high, never having been so low as 5 per cent. till the year 1699, till which date it was 6, 7, and even 8 per cent. The rate of annuities of course was exorbitant in a corresponding degree. But in addition to all this, owing to the high premiums with which it was necessary to tempt lenders, the money actually received by the Government was very much under the nominal amount of the loans. The total of the sums borrowed during this reign was 44,100,795*l.*; but of this amount all that found its way into the Exchequer was only 34,034,518*l.* At the close of the reign (in 1702) the actual debt of the nation was 16,394,702*l.*, bearing an interest of 1,310,942*l.*; but of this by much the largest portion was in the course of repayment by terminable annuities, and its extinction was therefore provided for within a certain time.

The new war with France and Spain, which broke out immediately after the accession of Queen Anne, and lasted till 1713,—within about a year of the close of her reign,—again led to the raising of money by loans more constantly and on a larger scale than ever. During the whole of this reign the national finances were in a state of the greatest confusion. For some time money was principally obtained by annuities for a long term of years, and for one, two, or three lives, which were granted by the Government on the most disadvantageous terms. Lotteries were also occasionally had recourse to for the raising of money.

In 1711 the deficiencies of the Government for which no provision had been made amounted to the sum of nine millions. At this time the South Sea Company was established, nominally for prosecuting a trade with the South Seas and with the north-west coast of America, but really for the purpose of aiding the Government in its financial difficulties. This company, whose capital exceeded 9,000,000*l.*, obtained permission to take in by subscription the debts of the nation to that amount at an interest of 6 per cent., with an allowance from the Government of 8000*l.* per annum for the charges of management. Four years afterwards the nominal capital of the company was increased to ten millions by writing up certain arrears of interest as stock in the names of the existing proprietors,—who received the same in lieu of their dividends then due,—and by the creation of a small additional amount of stock, which was made transferable for the use of the public under the direction of the Treasury.

Even in this arrangement, however, while various taxes were expressly set apart for the payment of the dividends, and were declared perpetual for that purpose, a power of redeeming the company's capital was reserved by the Government; and it was provided that, if any surplus should accrue from the produce of the appropriated taxes, it should go to the liquidation of the debt. Still, as the stockholders retained no right of demanding their money back from the Government in any circumstances, and as the amount is too large to be considered, like the smaller sums subscribed by the East India Company and the Bank, as a mere payment for the privileges granted to the company, this transaction may be regarded as the first adoption of the funding system, or of that system by which the Government borrows money, not on any engagement to repay the sum borrowed, but by only engaging to pay a certain interest upon the debt until it shall be discharged; in other words, by granting the lender an interminable annuity,—that is, an annuity of indefinite but terminable duration.

At the close of the reign of Queen Anne (in 1714) the national debt had risen to the sum of 52,145,363*l.*, bearing an annual interest of 3,351,358*l.* Of this sum the unfunded debts amounted to about 5,000,000*l.*, and the debts contracted on temporary annuities to about 26,000,000*l.* The interest upon the remaining 21,000,000*l.*, constituting what might be called the permanent debt, as not being in a course of extinction, was 1,288,600*l.*

The House of Commons having declared itself under the necessity of reducing, by degrees, the heavy burden that pressed upon the country, some diminution of the debt was effected, so that, in 1717, it was reduced within 48¼ millions, the annual charge in respect of which amounted to 3,117,296*l.*; but the legal rate of interest being about this time reduced from 6 to 5 per cent., some partial relief was obtained in that manner. A very large proportion of the public debt at this time consisted, however, of annuities, granted principally for 99 years, and no reduction of charge could be effected upon this branch. The money-rate obtained by the public for these annuities varied, of course, with the tide of political and commercial events; in some cases only 15 years' purchase was paid, and in no instance did the price exceed 16 years' purchase. When the grant was made upon lives, the terms were still more disadvantageous. On annuities for single lives only 9 years' purchase was obtained; if the grant was extended to two lives, the price was 11 years' purchase; and when three lives were nominated, the annuity was obtained for so low a rate as 12 years' purchase. Unfavourable to the public as these terms of raising money may be considered, the Government had been compelled, prior to the establishment of the Bank of England, to accept offers still more disadvantageous: in the year 1692 annuities were granted upon single lives at the rate of 14 per cent., being little more than seven years' purchase. Improvident as this bargain may appear to us, there is no reason to doubt of its having been the best which was obtainable in the existing commercial and political state of the nation, and it was with difficulty even that the subscription could be filled. These annuities for lives were afterwards converted into others of 96 years, upon the terms of the annuitants paying into the Exchequer a further sum, equivalent to no more than four and a half years' purchase of the annuity.

Exchequer Bills.

In 1717, the first funding of Exchequer bills was effected by the conversion of their amount into perpetual 5 per cent. annuities: two millions, then held by the Bank of England, were converted in this manner by a private arrangement with the directors.

The raising of money by loans, therefore, is not the only way in which the national debt has been increased. Exchequer and navy bills, and other similar Government securities, originally issued for a temporary purpose, have frequently been funded, or converted into a portion of the permanent debt. Of course this is done by an arrangement with holders of the bills. During the latter part of the last war Exchequer bills were usually funded to a considerable amount every year.

Exchequer bills were first issued in the reign of William III. These are bills issued by the Treasury and bearing interest, which (except when funded) are always recalled, and their place, if necessary, supplied by a new issue, after short periods. They were first resorted to during the scarcity of a circulating medium occasioned by the calling-in of all the silver money, preparatory to the great recoinage in 1696. "It was on this occasion," says Anderson, in his 'History of Commerce,' "that Mr. Montague first set on foot a new circulating paper credit, by issuing bills from the Exchequer; at the same time contracting (as has ever since been done) for their being circulated for ready money on demand. And as many of those first Exchequer bills were for sums as low as 5*l.* and 10*l.*, they were of very good use at this time, when there was so great a scarcity of silver money during this recoinage, as they were taken at the Exchequer for all payments of the revenue; and as, when re-issued, they were then allowed 7*l.* 12*s.* per cent. interest, they soon rose from a small discount to be better than par." The portion of the debt for which Exchequer bills are issued is called the floating or unfunded debt. This portion of the debt has in modern times occasionally risen to a great height; in 1815, when it was at the highest, it amounted to between 67,000,000*l.* and 68,000,000*l.*

Exchequer bills are at present issued under the authority of Parliament for sums varying from 100*l.* to 1000*l.*, and bear interest. Although their amount has varied greatly at different times, the convenience which they afford to individuals and their advantage to the public have been such as to cause their constant issue. Their convenience to individuals arises from the circumstance of their passing from hand to hand without the necessity of making a formal transfer, of their bearing interest, and of their not being subject to such violent fluctuations as sometimes occur in the prices of the funded debt. This comparative steadiness in value is caused by the option periodically given to the holders to be paid their amount at par, or to exchange them for new bills to which the same advantage is extended; besides this, when a certain limited period has elapsed from the date of their first issue, they may be paid to the government at par in discharge of duties and taxes. The amount of premium that may have been paid at the time of purchase is consequently all that the holder of an Exchequer bill risks in return for the interest which accrues during the time that it remains in his possession. The advantage to the public consists in the lower rate of interest which they carry compared with the permanent or funded debt of the nation, to which, however, they must in this respect bear some certain proportion. When the price of the public funds is high, the interest upon Exchequer bills will be low; and if, through any public or commercial derangement, the funds should fall in price so as to afford a much more profitable investment than Exchequer bills, the rate of interest upon these must be raised in order to prevent their payment into the Exchequer in discharge of duties: a thing which would embarrass the financial operations of government. When first issued in the reign of William III., the interest borne by Exchequer bills was 5*d.* per 100*l.* per diem, being at the rate of 7*l.* 12*s.* 1*d.* per cent. per annum. In the same reign the interest was afterwards lowered to 4*d.* per 100*l.* per diem, or 6*l.* 1*s.* 8*d.* per cent. per annum; and in the following reign the rate was still further reduced to 2*d.* per diem, or 3*l.* 0*s.* 10*d.* per cent. per annum. During the greater part of the war from 1793 to 1814, the rate of interest upon these securities was fixed at 3½*d.* per cent. per diem, or 5*l.* 6*s.* 5½*d.* per cent. per annum. Since the last-mentioned year the rate has been progressively reduced to 2½*d.*, 2*d.*, and 1½*d.* per 100*l.* per diem, at which latter rate they were in the market at the time of the derangement of the currency which was experienced in the beginning of 1837. Under these circumstances, it was considered important as far as possible to relieve the Bank of England, by which establishment a very large proportion of these securities were then held, and to place it in the most favourable position for affording relief to the commercial classes; and accordingly the rate of interest upon Exchequer bills was raised to 2¼*d.* per cent. per diem: at present (September, 1841) the interest is 2¼*d.* per cent. per diem.

In periods of commercial pressure, arising from causes which are believed to be temporary, it has sometimes been considered advisable by Parliament to make advances to merchants upon the security of goods; these advances have been made by the issue of Exchequer bills, which have been cancelled when the exigency that called for them has passed away. A more permanent occasion for their issue, apart from the immediate wants of the government, has been the desire of aiding individuals or private associations in the prosecution of works of public utility, such as canals, roads, &c. In these cases the rate of interest charged to the borrowers is somewhat greater than that borne by the bills, and the difference has been applied to defray the expense of management on the part of the public.

The amount of Exchequer bills "outstanding and unprovided for" at the end of each of the last twenty-five years was as follows:—

Years.	£.	Years.	£.
1815 . .	41,441,900	1828 . .	27,657,000
1816 . .	44,650,300	1829 . .	25,490,550
1817 . .	56,729,400	1830 . .	27,271,650
1818 . .	43,655,100	1831 . .	27,133,350
1819 . .	36,900,200	1832 . .	27,278,000
1820 . .	30,965,900	1833 . .	27,906,900
1821 . .	31,566,550	1834 . .	28,521,550
1822 . .	36,281,150	1835 . .	28,976,600
1823 . .	34,741,750	1836 . .	26,976,000
1824 . .	32,398,450	1837 . .	24,041,550
1825 . .	27,994,200	1838 . .	24,026,050
1826 . .	24,565,850	1839 . .	19,965,050
1827 . .	27,546,850	1840 . .	27,639,155

To return, however, to the history of the national debt. The year 1720 is memorable in the annals of British finance, for the passing of the South Sea Act, by which it was attempted to reduce all the public debts under one head of account, at a uniform rate of interest. For this end, the company was authorized to take in, either by subscription or purchase, both the redeemable and irredeemable debts of the nation, and to enlarge their capital to the extent of their purchases, being empowered, under the provisions of the Act, to raise the money required, either by calls upon the existing proprietors, or by receiving subscriptions for new stock, by the granting of annuities, or by the issue of bonds or debentures. In the accomplishment of this scheme the projectors only partially succeeded, while the disgraceful frauds by which the proceedings of the company at that time were marked, led to a parliamentary investigation which caused the disgrace of some of the Ministers, the Chancellor of the Exchequer being expelled the House, and committed to the Tower for his share in the plot. The subscriptions received by the South Sea Company, under the Act of 1720, amounted to upwards of 26 millions, the interest upon which, as well as that upon the original capital of the company, was, by the terms of the Act of Parliament, to be prospectively reduced, in 1727, to 4 per cent.

Throughout a great part of the reign of George I. (1714—1727) the country was involved in continental wars, and additional loans to a considerable amount were accordingly resorted to. In 1717, as already stated, 2,000,000*l.* of Exchequer bills were funded, or made part of the permanent debt. As many temporary annuities, however, fell in, the total amount of the debt was not increased during this reign. Some relief was also obtained by the rate of interest having fallen, and the new loans being consequently effected by the government on more advantageous terms. At the end of the reign the total amount of the debt was 52,092,238*l.*, bearing an interest of 2,217,551*l.* Of this sum the funded debt exceeded 46,000,000*l.*, on which the interest was about 1,900,000*l.* The temporary annuities now amounted only to between 2,000,000*l.* and 3,000,000*l.*, bearing an interest of about 180,000*l.*

In 1736 the public debt of England amounted to about 50 millions, but the annual charge had been reduced below two millions. At the peace of Aix-la-Chapelle, in 1748, the national debt exceeded 78 millions, but in the following year the public obtained some relief from the burden through the lowering of the rate of interest. Little else was done in the way of alleviation at this time, and at the breaking out of the Seven Years' War, in 1756, the debt still amounted to 75 millions. A public writer of some repute, Mr. S. Hannay, says, at that date, "It has been a generally received notion among political arithmeticians, that we may increase our debt to 100,000,000*l.*, but they acknowledge that it must then cease by the debtor becoming bankrupt." Those who in more recent times have witnessed the addition year after year to the debt of sums equal to more than the difference between its then amount and its declared limit, may smile at this prediction, and learn to put little faith in opinions which are not based upon previous experience.

When the Seven Years' War was ended by the peace of Paris, in 1763, the debt reached 139 millions, and the annual charge was 4,600,000*l.* During the twelve following years, a period of profound peace, only 10,100,000*l.* of the debt was discharged. The war of the American Independence raised the debt from 129 to 268 millions, and the annual charge in respect of the same to 9,512,232*l.* So little was done in the way of liquidation during the following ten years, that at the beginning of the war of the French Revolution the debt still amounted to 260,000,000*l.*, and its annual charge to 9,437,862*l.* The outlay occasioned by the prosecution of that war was great beyond all precedent. Between 1793 and the peace of Amiens the addition made to the capital of the debt amounted to 360 millions, and the annual burden was increased from 9,137,862*l.* to 19,945,621*l.* Between the recommencement of the war in 1803 and its termination after the battle of Waterloo in 1815, there were added 420 millions to the capital of the debt, which then amounted, including the unfunded debt, to 885 millions, and the annual charge upon the public exceeded 32 millions of money. This enormous rate of progression appears to have excited far less alarm than was expressed at the comparatively trifling additions made at the beginning of the funding system, a consequence which probably must be in great part attributed to the establishment of the sinking-fund, and to the hope which it held out of cancelling at no very distant period each amount of debt successively increased.

The following summary, taken from Mr. M'Culloch's 'Dictionary of Commerce' (second edition, p. 585), shows, in an intelligible form, the state of the debt at several distinct periods:—

	Principal. *L.*	Interest. *L.*
Debt at the accession of George II. in 1727 .	52,092,238	2,217,551
Debt contracted from the accession of George II. till the Peace of Paris in 1763, three years after the accession of George III. .	86,773,192	2,634,500
Debt in 1763	138,865,430	4,852,051
Paid during peace	10,281,795	380,480
Debt at the commencement of the American war in 1775	128,583,635	4,471,571
Debt contracted during the American war .	121,267,993	4,980,201
Debt at the conclusion of the American war in 1784	249,851,628	9,451,77
Paid during peace from 1784 to 1793 . .	10,501,380	243,27
Debt at the commencement of the French war in 1793	239,350,148	9,208,495
Debt contracted during the French war .	608,932,329	24,645,971

Dr. Hamilton, in his work on the 'National Debt,' by dividing the years from the Revolution to 1813 into periods of peace and war, showed that in sixty-three years of war the debt contracted amounted to 638,129,577*l.*, and that in a period of nearly equal length, comprising sixty-one years of peace, the amount of debt paid off was only 39,594,305*l.*

The Sinking-Fund.

The first sinking-fund was that established by Sir Robert Walpole (but suggested by Earl Stanhope) in 1716. At this time the taxes, the produce of which had been assigned to pay the interest on the several portions into which the debt was divided, and which had also been made perpetual for that purpose, yielded a somewhat larger revenue than was absorbed by the dividends; and the scheme in question was, that the surplus thus accruing should be formed into a fund for the discharge of the debt. Various sums, otherwise obtained, were afterwards added to this fund. On the other hand, the taxes, which had at first yielded a surplus, very soon ceased to do so; but the sinking-fund was still kept up by new loans being contracted to supply its annual demands. This system commenced in 1718. In 1733, again, the sum of half a million was taken from the sinking-fund towards the national expenses of the year; and the same violation of the principle of the scheme being afterwards annually repeated, the fund eventually almost ceased to produce any effect in the reduction of the debt. It appears that, in fifty-six years—namely, from its institution till 1772—it had only, after deducting the amount of the new loans that had been made for its support, yielded something above 11,000,000*l.* in all for that purpose.

The next sinking-fund was that established by Mr. Pitt in 1786. It was to be supported by 1,000,000*l.* taken annually from the national revenue—the various branches of which were at the same time united, under the name of the consolidated fund. The sums thus obtained were vested in the hands of Commissioners for the Redemption of the National Debt, to be applied by them, as they should judge expedient, in the purchase of stock at the market prices. The hopes of this scheme rested in a great degree upon the supposed efficacy of the principle of compound interest, to which attention had some years before been strongly called by Dr. Price. Into any detail of the various modifications which the plan of the sinking-fund subsequently underwent, it is impossible for us here to enter. Suffice it to observe, that, after having had its form repeatedly changed, and having been supported for many years, as that of Sir Robert Walpole had been, by loans annually raised expressly to supply the sums necessary for keeping it up, it was finally abolished, in 1829, by the Act 10 Geo. IV. c. 27, which enacted that the sums thenceforth annually applicable to the reduction of the national debt should consist simply of the actual surplus revenue beyond the expenditure.

It is obvious that the principle declared in this enactment is really the only one on which a sinking-fund can be rationally established. A person in debt (and the case is precisely the same with a nation) will manifestly never make any progress in relieving himself from his incumbrances, if, as fast as he pays his creditors with the one hand, he borrows with the other. Even if he could always borrow on the same terms on which he makes his payments, he would only be putting himself to a great deal of trouble for no purpose. In the case of the national debt, the apparatus of commissioners, and other public functionaries, by which the *redemption* of the debt was carried on, was, of course, maintained at a very considerable annual cost. But this was by no means the whole expense. From the manner in which loans are negotiated (as afterwards explained), it will be perceived that the nation can seldom borrow money except at some advance upon the market price of stocks at the time. It is true that the effect of a new loan being announced is usually, for the moment, to depress the price of stocks; and, on that account, the whole of the advantages accorded to the subscribers is not to be set down as a loss to the nation; but still there is in general a sacrifice to some extent. Hence the improvidence of such a transaction whenever it is needlessly resorted to.

Dr. Price was so enamoured of his project of a sinking-fund accumulating at compound interest, as to recommend that it ought to be, in all circumstances, kept in operation, even if new loans were necessary for that purpose. But, in truth, this notion of any wonder being to be worked, or any benefit to be obtained, even in the most favourable case, by allowing the funds appropriated for the extinction of the debt to accumulate at compound interest, instead of applying them at once, whenever they become available, is a mere delusion—as a very few figures will at once make clear. Let us suppose an individual to be indebted to the amount of 100*l.*, and to have an income exceeding his expenditure by the annual sum of 15*l.* There are three ways in which he may apply this surplus to the discharge of his debts. First, he may, every year, pay the interest regularly, and also devote the whole remainder of the 15*l.* to the reduction of the principal. The result of this will be, that (supposing the rate of interest to be 5 per cent.) at the end of the

1st year his debts will be reduced to . .			£90	0	0
2nd	,,	,,	79	10	0
3rd	,,	,,	68	9	6
4th	,,	,,	56	17	$11\frac{7}{10}$
5th	,,	,,	41	14	$10\frac{97}{200}$

Or, secondly, he may, every year, pay the interest only, and allow the remainder of the surplus to accumulate at compound interest. But is anything gained by this arrangement? The amount of the debt, of course, now remains unaffected; and it will be found that the sinking-fund, by which it is to be eventually discharged, arising from a yearly payment of 10*l.*, and the accumulations of interest upon preceding deposits, will increase as follows:—

At the end of the 1st year it will be . .			£10	0	0
	2nd	,,	20	10	0
	3rd	,,	31	10	6
	4th	,,	43	2	$0\frac{3}{10}$
	5th	,,	55	5	$1\frac{93}{200}$

Now these sums, if severally subtracted from 100*l.*, the constant amount of the debt, would leave precisely the same series of balances exhibited in the former table; that is to say, at whatever time the accumulations might be applied to the reduction of the debt, they would just reduce it as much as it would have been reduced by the first mode of operating upon it, and not a fraction of a farthing more. For example, the sum of 31*l.* 10*s.* 6*d.*, which has accumulated by the end of the third year, being applied to the reduction of the debt, would bring it down to exactly 68*l.* 9*s.* 6*d.*; and the sum of 55*l.* 5*s.* $1\frac{93}{200}$*d.*, which has accumulated by the end of the fifth year, being so applied, would bring it down to 41*l.* 11*s.* $10\frac{97}{200}$*d.* In each case the reduction is the very same, as appears by the first table, which would have been effected by the simple and more direct process of applying the whole surplus regularly every year to the extinction of the debt, without any attempt being made to take advantage of the principle of compound interest at all.

But, thirdly, and lastly, this vaunted principle may be applied to a still greater extent, by the entire annual surplus being allowed to accumulate, without any deduction being made from it, even to pay the interest of the debt. In that case, of course, the amount of the debt will be every year increased by the interest upon its original amount, and also by the interest upon the additions thus made to it; that is to say, it will accumulate at compound interest as well as the sinking-fund. Let us see what will be the race between the two. It is exhibited in the following statement:—

		Debt.			Sinking Fund.		
		£.	*s.*	*d.*	£.	*s.*	*d.*
At the end of the	1st year,	105	0	0	15	0	0
,,	2nd ,,	110	5	0	30	15	0
,,	3rd ,,	115	15	3	47	5	9
,,	4th ,,	121	11	$0\frac{3}{20}$	64	13	$0\frac{9}{20}$
,,	5th ,,	127	12	$6\frac{303}{400}$	82	17	$8\frac{109}{400}$

Here, again, the balance obtained at the end of any one of the years in the series, by subtracting from the debt the amoun of the fund that has accumulated for its discharge, will be found to be precisely the same as before. At the end of the fifth year, for instance, if the sinking-fund were to be applied to the reduction of the debt, the 127*l.* 12*s.* $6\frac{303}{400}$*d.* would, by the sum of 82*l.* 17*s.* $8\frac{109}{400}$*d.* being paid off, be reduced just to 44*l.* 14*s.* $10\frac{97}{200}$*d.*, as it would equally have been, although the principle of compound interest had never been brought into operation in the case.

It is unnecessary to carry the calculation further; but to whatever extent it might be carried out, the result would be found to be the same. In no length of time would a fund, accumulating by compound interest, get ahead by the smallest degree in the redemption of the debt.

Indeed, were it not for the wild notions that have so generally taken hold of people's imaginations upon this subject, the question would neither require nor bear even the examination we have bestowed upon it. It is decided by a single consideration. The wonders of compound interest have been paraded as if the principle were one, of the operation of which no experience had ever been had till it was proposed to make it available in the project of the sinking-fund. But, in truth, its operation is the most common of all incidents in money transactions, and has been so ever since the lending and borrowing of money on interest has been practised among men. Compound interest means nothing more than the augmentation of a debt by the addition to its sum of the annual interest due upon it, and by the payment of interest on the debt so augmented. The English nation had known enough of this process long before the date either of Mr. Pitt's sinking-fund or of Dr. Price's pamphlets. Whenever the national debt had been increased by the borrowing, within the year, of a sum of money equal to the annual interest paid upon its previous amount, the principle of compound interest had been called into action upon the whole debt; and, whenever a smaller sum than this had been borrowed, the same principle had been allowed to come into partial operation. So also in reducing the debt, any sum of money that may be directly applied to that purpose cuts away a portion of the debt equivalent to itself in amount, and which, unless so discharged, would have either continued to increase at compound interest, or could have only been kept stationary by the annual application to it of the whole interest of the sum by the outlay of which it has been discharged. That sum, therefore, if reserved in the hands of the State, never could have increased by a single farthing. In being used at once to discharge its own amount of the debt, it is laid out with the full effect with which, if allowed to accumulate at compound interest, it could possibly have acted. It does not provide a constantly augmenting fund to meet the augmentation of the debt, but it does the same thing,—it prevents (what could in no other way be prevented) the augmentation of its corresponding portion of the debt at the same rate with itself. It sweeps away at once as much of the present debt as it ever could extinguish were its accumulation as a sinking-fund, at compound interest, to be allowed to go on without interruption for twenty centuries.

In short, as Dr. Hamilton has laid down the general principle, "the excess of revenue above expenditure is the only real sinking-fund by which public debt can be discharged. The increase of the revenue, and the diminution of expense, are the only means by which this sinking-fund can be enlarged, and its operations rendered more effectual; and all schemes for discharging the national debt, by sinking-funds operating by compound interest, or in any other manner, unless so far as they are founded upon this principle, are illusory."

It is never to be forgotten, however, in considering this subject, that it is always the duty of the State to make every effort in its power for the discharge of the principal of its debts, as well as for the regular payment of the interest. It ought, whenever it is possible to do so, to devote a part of its income to the one purpose as well as to the other; and it ought to find an income sufficient to answer both purposes, by either a diminution of its expenditure upon other objects, or an increase of taxation, if the one or the other of these two methods is at all practicable. In so far, therefore, as the original scheme of Mr. Pitt's sinking-fund proceeded upon the principle of providing for the repayment of every loan that was raised by setting apart annually for that end a certain amount of actual surplus revenue, its design was deserving of all commendation. Nay, further, it appears impossible to deny that injustice was done to the holders of all the stock that had been borrowed on condition of the means for its redemption being thus provided, when the scheme was departed from, and such provision no longer made.

Now that the absurdity is acknowledged of borrowing in order to pay off debt, which absurdity would in the case of an individual always have been apparent, it is difficult to account for the blindness with which the whole nation clung to this so-called fund as the certain means of extinguishing the debt, which in effect it contributed to augment, through the less advantageous terms upon which the money was borrowed than those upon which an equivalent amount of debt was afterwards redeemed. The difference between the average rates at which money was borrowed and at which purchases were made by the Commissioners who managed the sinking-fund between 1793 and 1814 was such, that through the operations of the fund, upon which such confident hope of relief was placed, the country owed upwards of 11 millions more at the end of the war than it would have owed but for those operations. At the period just mentioned the annual income of the sinking-fund amounted to 13,400,000*l.*, arising from dividends on stock purchased by the commissioners with funds borrowed at a higher rate of interest for the purpose. It was impossible, however, during a time of peace to raise by means of taxes so large an amount, in addition to the actual current expenditure of the country and the interest upon the unredeemed portion of the debt. During the war, when the deficiency of income was covered by yearly loans, the fallacy was not quite so apparent as it now soon became, for a few years after the peace the deficiency in the public income was borrowed from the Sinking-fund Commissioners by Parliament, a course which served to render the absurdity only the more apparent, and in 1824 the plan of keeping up a large nominal sinking-fund in the absence of actual surplus income was abandoned; and, as already stated, the Act 10 Geo. IV. c. 27, which came into operation 5th July, 1829, enacted that thenceforth the sum annually applicable to the reduction of the national debt shall consist of the actual surplus revenue beyond the national expenditure.

Reduction of Interest on the Debt.

There is another operation of the Government by which the burden of the national debt has frequently been materially diminished—namely, the reduction of the interest of certain portions of it. This reduction the State is enabled to effect by the power which it usually retains in negotiating a loan of paying off its creditors at any time it may find convenient. The operation may be resorted to whenever the actual rate of interest in the country falls in any considerable degree below the nominal rate of any particular species of stock. This state of things is indicated by the stock in question being above par, or at a premium, in the money-market; that is to say, by a hundred pounds of it selling for more than that sum of money. In such circumstances Government may safely offer to the holders of the stock the repayment of their money, unless they will accept a diminished rate of interest. Thus, suppose the common rate of interest in the country to be 4 per cent., the real value of 100*l.* in a 5 per cent. stock will be 125*l.*, that being the sum required to yield five pounds annually in any other investment. The price of the stock, therefore, will rise towards this point in the market, although it may very probably be prevented from quite reaching it, by the apprehension of the very reduction of interest to which the stock is in danger of being subjected. Let us suppose that the price actually rises to 110*l.* In that case the possessor of 1000*l.* in stock has actually 1100*l.* worth of property in the funds. Still, if the Government should determine to pay off the stock, he will not be entitled to receive more than 1000*l.* for his share. Now, as he has not sold out when he might have done so any day for 1100*l.*, it is not probable that he will prefer accepting the 1000*l.* thus offered by Government, if he shall have the option of remaining a creditor of the State on terms which, although less advantageous than those he has hitherto had the benefit of, shall yet afford him a better return for his capital than he could obtain for it by laying it out at interest in any other form. His capital is now only 1000*l.*; and for that, according to our supposition, he could obtain from any other ordinary investment only 40*l.* per annum. If the Government, therefore, should offer him 4 per cent. interest, he would make as much of his money by allowing it to remain in the hands of the State, as he would do by carrying it elsewhere. But the Government might probably offer him 4½ per cent., which would produce 45*l.* per annum instead of 40*l.*, which he would make of it otherwise. In that case he would have little or no inducement to transfer it. If, however, he should insist upon having his money, the State would be a gainer by paying him off rather than continuing to allow him the high rate of interest of which he had been heretofore in the receipt, even although it should be necessary to resort to a new loan for that purpose; for, in consequence of the reduction in the current rate of interest, the new loan could be obtained on terms which would entail a less burden upon the public than the present dividends occasion.

In all the instances, accordingly, in which the operation we are here considering has been carried into effect, the number of holders of stock who have dissented from the Government proposals, and preferred being paid in money, has been very small. The offer of the Government, however, it is to be observed, has not always been in the simple form of a proposal to convert the stock bearing a high rate of interest into the same quantity of stock bearing a lower rate. It has sometimes been attempted to reduce the capital as well as the annual amount of the interest of the debt, by giving the holders of the stock to be operated upon the option of continuing to receive the same rate of interest as before, but of having a certain portion of their stock extinguished. Even a higher than the former rate of interest has sometimes been offered, on condition that a larger should be exchanged for a smaller quantity of stock. For instance, when in May, 1830, it was determined to reduce the burden of a certain amount of stock which bore an interest of 4 per cent., the option was given to the holders of receiving for every 100*l.* of the 4 per cent. stock, either 100*l.* of 3½ per cent. stock, or 70*l.* of a new stock to be created with an interest of 5 per cent. The interest on 100*l.* at 3½ per cent. is the same as the interest on 70*l.* at 5 per cent.; and, therefore, the stockholder would have been, in so far as regards the annual benefit derived from his capital, just as well off with the one investment as with the other, while the nation, by his acceptance of the 5 per cent. stock, would have gained the advantage of having the capital of the debt lessened at the same time that its annual burden was lightened. The danger, however, of accepting the 5 per cent. stock would have been, that this stock might have been paid off in the course of a short time; in which case the holders would have received 100*l.* in the 3½ per cents., not for every 70*l.* of stock which they possessed, but only for every 100*l.*; an amount for which they would have exchanged about 143*l.* of their former stock. To obviate this objection, therefore, the proposal was accompanied by an engagement on the part of the Government that the new 5 per cent. stock should not be subject to a reduction of interest for forty-five years. Still, even this security was not sufficient to induce many persons to prefer the new stock: the investments in it did not amount to quite half a million.

On other occasions the operation of reducing the interest on a particular description of stock has been so managed as to be attended with an augmentation of the capital of the debt. Thus, in 1822, the holders of about 140,000,000*l.* of 5 per cent. stock were converted into holders of 4 per cent. stock, by being allowed 105*l.* of the latter for every 100*l.* they had possessed of the former. The effect of this arrangement was to diminish the annual charge on the debt by 1,222,000*l.*, but at the same time to increase the capital of the debt by the sum of about 7,000,000*l.*

An augmentation of the capital of the debt, however, even although unattended by any augmentation of the annual charge, is very far from being a matter of no importance. The practice, as already observed, that has been for a long period pursued by the Government of this country in the negotiation of loans and the general management of the debt, has been to prefer paying a low rate of interest upon a larger capital to paying an equivalent amount of interest at a higher rate upon the money which it has actually borrowed. If this reduction of the rate of interest had been only carried a little further, and the plan had been followed universally, it would have entirely prevented any diminution being effected in the burden of the debt by the process we have just been explaining, down to the present hour. If no stock of a higher denomination, for instance, than 3 per cent. stock had ever been created, the large savings that have from time to time been obtained by the reduction of the interest would have been rendered altogether impracticable. It is only upon stock of the higher denominations that the interest has been, or in the nature of things can be, reduced. Thus if the money be funded in stock bearing an interest of 5 per cent., the annual charge may be reduced as soon as the common rate of interest in the country shall fall below 5 per cent. But if it be funded in stock bearing an interest of only 3, or 2, or 1 per cent., no such reduction will be practicable until the common rate of interest in the country shall have fallen below 3, or 2, or 1 per cent.

It is, however, to be remembered that Government never really can borrow money in a stock bearing a high rate of interest so cheaply as in a stock bearing a lower rate of interest, for the obvious reason that, in the latter case, the lender has to count, among his advantages, his much greater security from being paid off at the nominal value of his stock. Thus, we have just seen that, on the conversion of the Four per Cent. Annuities, in 1830, very few of the holders could be prevailed upon to accept of 5 per cent. stock in preference to as much 3½ per cent. stock as would have yielded only the same annual return, notwithstanding even the guarantee from the Government with which the offer was accompanied. There can be no doubt, therefore, that much of the money borrowed by the nation has been obtained on easier terms than it otherwise would have been, in consequence of the particular mode of funding that has been adopted; and this gain is to be set against the disadvantages attending the practice, as just explained.

Another Government operation in the management of the debt is the consolidation, which has at different times been effected, of several stocks into one. When the stocks thus united have borne different rates of interest, they have, of course, been reduced to a uniform rate, by an alteration, where necessary, of the amount of the capital, corresponding to the alteration made in the rate of interest. The most remarkable attempt in the history of English finance is that which was made in 1720, when, with the object of reducing the whole of the public debts then existing under one head of account, the South Sea Company, as already stated, was authorized to buy them all up. This scheme, however, was only partially successful. In 1751 the present fund called the Three per Cents. Consolidated Annuities was formed by the union of various funds which had till then been kept separate; but in this case no new arrangement was made as to the interest, all the several portions of the consolidated stock having previously borne interest at 3 per cent.

The experience of the last twenty-five years has proved that the most important relief from the pressure of debt to be obtained, even during a profound and long-continued peace, will probably be derived from the lowering of the rate of interest.

The amount of the National Debt unredeemed on the 5th of January, 1816, was stated to be as follows in the Fourth Report of the Select Committee of the House of Commons on Public Income and Expenditure. The second column, showing the amount for the year ended 5th of January, 1839, is taken from the Annual Finance Accounts :—

	1815. £.	1838. £.
3 per cent. stock	580,916,019	508,360,605
3½ "	10,740,013	249,922,566
4 "	75,725,504	1,615,385
5 "	148,930,403	1,449,134
Perpetual annuities .	816,311,939	761,347,690
Terminable annuities, 1,894,612*l.*, equal to an estimated capital of . .	30,080,347	68,145,907*
Unfunded debt	38,794,038	24,026,050
Total of unredeemed debt .	885,186,324	853,519,647
The annual charge upon which was :—		
Interest upon perpetual annuities .	28,278,919	24,135,180
Terminable annuities . . .	1,894,612	4,292,173
Interest on unfunded debt . . .	1,098,937	720,928
Charge for management paid Bank of England	284,673	158,150
Total annual charge .	32,457,141	29,306,431

Some little progress has been made since 1816 in the reduction of debt by the employment for that purpose of actual surplus revenue. An addition has on the other hand been made to the public burdens by means of the grant of 20,000,000*l.* voted by Parliament for compensation to the owners of slaves in the British colonies who were emancipated by the Act of 1833, and which has created an annual charge of 631,006*l.* interest, and 101,875*l.* in Long Annuities. (See Tables in the last page.

The diminution of the annual burden in the course of twenty-three years, from 1816 to 1839, was 3,150,710*l.*, at which rate the total extinction of the debt would not be effected until the year 2053. The slow progress made in this direction stands in striking contrast to the rapidity with which the load was accumulated, the entire diminution effected during twenty-three years of peace being scarcely equal to the additions made during some of the single years of the war.

It will be seen, on comparing the above statements for 1815 and 1839, that the terminable annuities have increased from 1,894,612*l.* to 4,292,173*l.* By the Act 48 George III. and several subsequent Acts, the Commissioners for the Reduction of the National Debt were empowered to grant annuities, either for lives or for certain terms of years, the payment for such annuities being made in equivalent portions of permanent annuities which were therefore to be given up and cancelled. By this course, which it will be seen has been acted upon to some extent since the peace, some future relief will be obtained at the expense of a present sacrifice. This plan, provided it be not carried so far as to interfere with the onward progress of the country, through an overload of taxation, appears to be dictated by sound prudence. A part of the terminable annuities (nearly one-half their present amount) will expire in 1860, and after that time portions will rapidly fall in; so that without looking to any redemption of debt from surplus income, or to any further reductions in the rate of interest, the next twenty-three years will be productive of nearly as much relief as has been obtained since 1816. "If (says Lord Congleton, 'Financial Reform,' p. 204) all the loans which have been raised since the beginning of the war of 1739 had been borrowed in annuities for ninety-nine years, their extinction would already have commenced." In seventy-three years from the present time (1841) nearly the whole of the debt incurred up to 1815 would be paid off. The objection against borrowing in terminable annuities instead of in perpetual annuities is that the former plan is accompanied by a higher rate of annual charge; but the difference does not appear to be so great as to counterbalance the advantages of a terminable debt. On this point we quote Dr. Price's work on 'Annuities,' vol. i. p. 273, where he remarks :—"It is obvious that accumulating debt so rapidly, and mortgaging posterity for eternity, in order to pay the interest of it, must, in the end, prove destructive. Rather than go on in this way, it is absolutely necessary that no money should be borrowed, except in annuities which are to terminate within a given period. Were this practised, there would be a limit beyond which the national debt could not be increased, and time would do that necessarily for the public, which, if trusted to the conductors of its affairs, would never be done. I am sensible, indeed, that the present burdens of the State would, in this case, be increased, in consequence of the greater present interest which would be necessary to be given for money; but I do not consider this as an objection of any weight: for let an annuity be for one hundred years, such an annuity is, to the present views of man, nearly the same with an annuity for ever; and it is also nearly the same in calculation: its value at 4 per cent. being twenty-four and a half years' purchase, and therefore only half a year's purchase less than the value of a perpetual annuity. Supposing, therefore, the public able to borrow money at 4 per cent. on annuities for ever, it ought not to give above 1*s.* 7*d.* per cent. more for money borrowed for 100 years. But should it be obliged to give a greater, or ½ per cent. more, the additional burden derived from hence would not be such as could be very sensibly felt, and the advantages arising from the necessary annihilation of the public debt by time would abundantly overbalance them."

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* The terminable annuities being 4,292,173*l.* was equal to a capital of this amount.

The tables upon which the Government contracts were for a long time made in respect of these annuities on lives, were formed upon erroneous calculations. An examination into the subject was made in the year 1829, by the mathematician employed as the Government actuary, when this gentleman immediately perceived that under the rates then granted, and upon the amount of annuities called for by the public, a loss was sustained little short of 100,000*l.* per annum. The Annuity Acts then in force were, in consequence, forthwith repealed, and were replaced by another Act, 10 George IV. c. 24, wherein the errors of the former scales were corrected, and the system was enlarged by empowering the commissioners' to grant, not only life annuities, but also annuities to continue for certain limited terms of years, such respective annuities to commence either immediately or at a future period. Tables of rates, containing every information that can be required upon the subject, are delivered, free of charge, from the National Debt Office, in the Old Jewry.

If the conversion of perpetual into terminable annuities is justly characterised as prudent, what must be said of the scheme of a directly opposite tendency which was brought forward and partially carried into effect by the Government in 1822? When the measure for commuting the half-pay and pensions usually denominated the "dead weight" was adopted in that year, the annual charge to which those obligations amounted was about five millions. From year to year the public would have been relieved from a part of this burden through the falling in of lives, until, according to the most accurate computation, the whole would have ceased in forty-five years. The measure above alluded to was an attempt to commute these diminishing payments into an unvarying annuity of forty-five years certain; and the calculation which was made assumed that by the sale of such a fixed annuity of 2,800,000*l.*, funds might be procured enough to meet the diminishing demands of the claimants. Only a part of this annuity was sold. The Bank of England purchased an annuity, payable half-yearly until 1867, for 585,740*l.*, and paid for the same between 1823 and 1828, in nearly equal quarterly instalments, the sum of 13,098,410*l.* For the sake of obtaining a partial relief during those six years, to the amount of nine millions and a half, we have thus had fixed upon the country for thirty-nine subsequent years an annual payment of 585,740*l.* It is not possible to allow that both these courses, so directly opposed to each other, could have been wise. Without inquiring further into the matter, it may be said that the plan of taking a larger burden upon ourselves, that we may relieve those who come after us, has at least the recommendation of being the most generous; and considering that our successors will have had no hand in the contracting of the debts, the burden of which they will have to bear, it might also be said that such a course is the most just.

Some saving has been effected since 1816 in the charges of management. This saving was part of the bargain made by the Government with the Bank of England on the renewal of its charter in 1833, and may be considered as a part of the price paid by that establishment for the prolongation of certain of its privileges then on the point of expiring. The management of the national debt is partly conducted at the Bank of England, and partly at the South Sea House, which last establishment is now kept up solely for that purpose. For this service the Bank of England, from 1808 to 1833, was paid at the rate of 340*l.* a million on 600,000,000*l.* of the debt, and of 300*l.* a million on the remainder; but by the charter, granted in 1833, it was enacted that 120,000*l.* per annum should in future be deducted from the amount of these allowances. The entire cost of managing the national debt for the year 1833 was 271,352*l.* 14*s.* 10½*d.*, and for 1840 it amounted to 158,363*l.* Previous to 1786 the expense of management was at the rate of 562*l.* 10*s.* per million, reckoning 40,000*l.* of terminable annuities, equal to a million of capital. In the above year the rate was reduced to 450*l.* per million, at which it continued until 1808.

The functions intrusted to the Bank of England with reference to the national debt do not extend to the transaction of any matter connected with its reduction. Such business is placed under the control of a body of commissioners, who act *ex officio* under the provisions of an Act of Parliament. This board is composed of the speaker of the House of Commons, the chancellor of the exchequer, the master of the rolls, the lord chief-baron of the Court of Exchequer, the accountant-general of the Court of Chancery, and the governor and deputy-governor of the Bank of England. The greater part of these commissioners do not take any part in the management of the business, the details of which are attended to by permanent officers, viz. a secretary and comptroller-general, and an actuary, with an adequate establishment of assistants and clerks: the ultimate control is exercised by the chancellor of the exchequer for the time being, assisted by the governor and deputy-governor of the Bank of England.

Without entering further than we have done into the history of the progress and accumulation of the national debt, we shall now proceed to give an account of various operations and other particulars connected with it, which are frequently mentioned or referred to.

Mode of Contracting Loans.

We shall state, in the first place, the manner in which money is borrowed by the Government. All loans, as it has been already observed, are now effected under the authority of Parliament—that is to say, an Act of Parliament sanctioning the transaction must be passed, whenever any money is borrowed. In practice, however, it is usual for the chancellor of the exchequer to arrange the terms of the loan with the contractors, in the manner to be afterwards stated, *before* the Act of Parliament has been obtained, the negotiation being subject, of course, to the ratification of the Legislature.

Loans, as we have had occasion to state in our historical deduction, have, in the different stages of the funding system, been effected in various forms. Originally money was borrowed by the State in the same manner in which it is still usually borrowed by private parties—that is to say, the lender was understood to retain the power of demanding back his money when he chose. The money remained his property, the State only purchasing the use of it by the payment of an annual interest. Eventually, however, loans came to be usually made upon the condition that the State should never be called upon to repay the money. The most remarkable, if not the only exception, in recent times, is the Loyalty Loan (as it was called) of 18,000,000*l.*, contracted in 1796, which it was agreed should be repaid, if the subscribers chose to demand their money, two years after the conclusion of the war in which the country was then engaged. The money came accordingly to be payable two years after the Peace of Amiens; but most of the subscribers agreed to accept, in exchange, of an equivalent amount of capital in other Government funds, and money was raised by a new loan, on the usual principle, to pay off the few who held out.

It may be observed, that when the use of money is thus obtained for an indefinite time, simply on the condition that an annual interest shall be paid for it, the transaction can hardly be properly called borrowing or contracting a loan; it more nearly resembles the taking a farm on a perpetual lease, or, which is the same thing, the purchase of a piece of landed property, on condition of the payment of a perpetual quit-rent to the seller; and it would be more correct to say that the money is hired or rented, than that it is borrowed. The position in which the State is placed by the arrangement even possesses an important advantage, as compared with that of the lessee or purchaser in the case we have supposed, in the power which is retained by it of at any time throwing up the bargain, or returning the property, and thus getting rid for ever after of the annual rent or payment. In regard to a very few loans, this power has been in a slight degree limited; but in so far as the great mass of the debt is concerned, it has been reserved entire and without restriction.

It may now, therefore, be stated generally, that all money raised in the way of what is called loan by the State is in fact obtained in perpetuity, or for any period, however long, during which the State may choose to retain it. The subscriber to the loan does not really lend his money, but gives it away altogether in exchange for a certain equivalent. If that equivalent be a certain rate of annual interest so long as the money shall be retained, he in fact purchases a perpetual annuity (subject to the bargain being reversed, or the contract broken off at any time it may suit the convenience of the other party to return him his money); and this is the species of equivalent which the State has agreed to give for by far the greater part of the money which it has borrowed. But it has frequently also offered other conditions. Instead of perpetual annuities, terminable annuities of different descriptions have been sometimes granted—that is to say, the subscriber to the loan has agreed to give his money on the State engaging in return to pay him an annuity either for a specified term of years, or for his life, or for a term depending upon some other similar contingency. Formerly such annuities used sometimes to be granted upon schemes called *Tontines;* by which the subscribers were divided into classes, according to their ages, or were allowed to appoint nominees who were so divided, and a proportionate annuity being assigned to each class, those who lived longest had the benefit of their survivorship, by the whole annuity being still divided among the diminished number. "Tontines," observes Dr. Hamilton ('Inquiry concerning the National Debt'), "seem adapted to the passions of human nature, from the hope every man entertains of longevity, and the desire of ease and affluence in old age; and they are beneficial to the public, as affording a discharge of the debt, although a distant one, without any payment. They have been extensively adopted in some foreign countries, but seldom in Britain." All the annuities for fixed terms (called Long Annuities) now existing, terminate in 1860.

In former times it was likewise customary to grant the subscribers to loans tickets in the State lottery, as an advantage in addition to their temporary or perpetual annuities. Sometimes the prizes which these tickets might bring were to be converted into stock, sometimes they were to be paid in money. Of course this species of premium can never be again resorted to.

Another inducement to subscribers, however, has been largely applied in modern times—that of assigning to the creditor a much greater nominal amount of stock than the money actually received from him. Thus, to take the example cited by Mr. M'Culloch ('Dictionary of Commerce,' second edition, p. 585), "Suppose Government were anxious to borrow, that they preferred borrowing in a 3 per cent. stock, and that they could not negotiate a loan for less than 4½ per cent.: they effected their object by giving the lender, in return for every 100*l.* advanced, 150*l.* 3 per cent. stock; that is, they bound the country to pay him or his assignees 4*l.* 10*s.* a-year in all time to come, or otherwise to extinguish the debt by a payment of 150*l.*" This practice was little known till towards the close of the American war; but since about the year 1780 it has been carried to a great extent. Dr. Hamilton observes that if the funded debt, contracted from the commencement of the American war to the year 1812, were paid off at par (that is, at its nominal amount), the nation would pay about 135,000,000*l.* more than it ever received. The effect upon the whole debt has been to increase its amount to not much less than two-fifths beyond the sum actually advanced by the lenders. In other words, while the debt is nominally about 750,000,000*l.*, the amount really borrowed has been only about 535,000,000*l.*

Lord Congleton remarks ('Financial Reform,' p. 293, 4th edition), that "a great many millions have been wasted in the following ways:—First, by the sinking fund of Mr. Pitt; 2ndly, by raising loans in nominal capital; 3rdly, by the Dead Weight Loan; 4thly, by bad bargains for funding Exchequer bills; and 5thly, by the life annuity scheme. No country (he adds) has ever paid more deeply for the ignorance of its legislators in those things which are taught by the science of political economy; for it is to pure ignorance, and not to any improper motives, that this immense loss of public property is to be attributed."

For a considerable time no competition in bidding for loans took place. Certain terms were merely proposed, at which persons were invited to subscribe their money. These terms were in general liberal enough to ensure a ready subscription, and indeed to make it be considered a favour by capitalists to obtain a share of the loan; and if on any occasion the terms first proposed were found not to be sufficiently tempting, a new scheme was announced offering greater advantages to lenders. This method of proceeding, however, manifestly so prejudicial to the interests of the public, as well as opening a door to many abuses, has been long abandoned. Now, when a new loan is to be made, it is always thrown open to competition. We cannot give a shorter or plainer account of the course usually followed than is conveyed in the following passage from Dr. Hamilton's excellent work:—"The Chancellor of the Exchequer fixes upon the funds in which the loan is to be made. These are often of different kinds, and not unfrequently a long annuity forms part of the emolument. He then gives public intimation that he is ready on a certain day to receive offers, and assign the loan to those who are willing to accept of the lowest terms. If a long annuity be a part of the proposed emolument, the other funds to be assigned to the lenders are fixed at a rate somewhat lower than the estimated value for each 100*l.* borrowed, and the bidding is on the long annuity, the loan being granted to those who will accept of the least annuity in addition to the capital offered. If the loan be in different funds, but without an annuity, the capitals in all the funds except one are previously fixed; and the bidding is on that fund, the loan being granted to those who will accept of the lowest capital. The Chancellor of the Exchequer is generally attended at the time appointed by several of the principal bankers in London, who deliver their offers, having previously made up a list of persons who are willing to share with them, to a certain extent, in case their offer be accepted; and the loan is assigned to the offerer who proposes the lowest terms." Of course the terms upon which a new loan is contracted for, must always be such as to afford the parties who advance the money a greater amount of stock upon the whole than they could obtain by making purchases with the same capital in the money market, for otherwise there would be no inducement for them to incur the greater risk, responsibility, and trouble of contracting for the loan.

Investing Money in the Funds.

The fundholder, or the national creditor, as he is sometimes called, is differently placed from an ordinary creditor in this respect—that he has given up the right of ever demanding the repayment of his money from his debtor. In fact, he has, properly speaking, not lent his money, but invested it—he has purchased with it a perpetual (in some cases, indeed, only a terminable) annuity, which annuity, moreover, is subject to the peculiar condition that it may be redeemed on certain terms specified at the time of granting it, whenever the party it has been originally purchased from shall think fit.

The person, however, who has thus advanced his money to the State may sell to another person what he has purchased from the State—namely, his perpetual or terminable annuity; and this he might do at any time, even were there no particular arrangements made by the State to facilitate such transactions. The State, however, will, it is obvious, aid its own operations in raising money in the way of loan, by providing some simple, easy, and unexpensive method of recording and legalizing transfers of stock. The annuity is made more valuable, or in other words, will obtain a larger sum for the State, by its being made thus readily negotiable. Accordingly, the arrangements established for the general management of the national debt comprehend both the regular payment of the dividends, and the maintenance of an apparatus by which sales and purchases of stock may be always effected with the utmost possible expedition and security.

Investments in public securities are made with various objects, and the choice of the particular fund into which purchases are effected must, in some respects, bear reference to the ulterior views of purchasers.

It would, at first sight, appear a very simple question, how best and most profitably to employ capital in this manner. Something more, however, is required than merely to know from which stock the greatest revenue may be derived in return for the money invested. The very circumstance, that higher inducements of this kind are continually offered for the purchase of some descriptions of stock than others, would lead us to suppose the existence of some good reason for the preference, since men are usually too clearsighted in matters of pecuniary interest to be carried away by blind partialities, or to sacrifice any portion of income without obtaining some equivalent. It is difficult, indeed, to account satisfactorily in every case for the preference shown by the public for one description of stock over another, particularly where the security and every other relative circumstance are identical, and where the only difference is to be found in the name under which the stock is registered in the public books—if we except, indeed, the unimportant circumstance that the dividends are payable at different periods of the year. This is the case with the three per cent. stocks, known under the names of Consols and Reduced, the former of which almost invariably bears a somewhat higher price in the market than the latter. This difference, however, is but trifling when compared with that which always attends the exchangeable value of funds bearing a higher rate of interest as compared with the prices of three per cent. stock. The reason for this is more apparent, depending upon the liability which always exists, not indeed for the absolute redemption of the debt as regards the nation, but for its discharge at par by means of the creation of other stock bearing a lower rate of interest. In the financial operations of the English Government, such a conversion has frequently occurred; and when the value of money is diminished by its superabundance, the temptation to the minister to provide in this manner for lessening the annual burdens of the country is one which he will not, and should not, withstand.

Such an operation can only happen when the market rate of interest is low, and when the condition of the country is prosperous; circumstances which fall so far within the knowledge and judgment of most persons, that the probability, or otherwise, of a redemption of stock may be judged of with tolerable certainty, for some time at least, before its actual occurrence. When investments of money are made for temporary purposes, stocks bearing the higher rate of interest may generally be chosen without much risk of loss from such a source. The same liability of being discharged, which admits of the purchase being made at a comparatively low rate, will indeed equally exist, and affect the price, whenever it may be required to sell; but in the mean time, a considerable advantage in point of income will have been secured.

In a time of war, and when the exigencies of the country call for additions to the public debt, there is little or no risk of any partial redemption or conversion of the funds; but experience teaches us that the most material saving which is brought about by the return of peace, in the fixed burdens of the country, consists in a reduction of the rate of interest. This reduction, however, is necessarily the most remote with regard to such funds as bear the lowest rate; and if even it should occur, the opportunity is obviously greater of repairing or mitigating the evil by a transference of the capital to some other description of security which, although sufficiently stable, has not been influenced in an equal degree by the tide of national improvement. These, doubtless, are the considerations which have always weighed in the public mind, and which have produced the marked variation which has existed in the prices of the different national securities. So extensively has the English Government already profited by the fall in the market rate of interest, to reduce the national burdens, that no great latitude remains at present for choice as regards investments in public securities.

Account of the different Funds.

We shall now give a list of the different funds, or descriptions of stock, at present existing, with the amount of each on the 5th of January, 1811:—

1. *South Sea Stock*, divided into the Company's Stock, or trading capital, amounting to 3,662,784*l.*; Old South Sea Annuities, 3,497,870*l.*; New South Sea Annuities, 2,460,830*l.*; and South Sea Annuities of 1751, 523,100*l.* These different descriptions of stock have all been created out of the capital of the famous South Sea Company, by successive Parliamentary arrangements, which it is unnecessary for our present purpose to detail. It is sufficient to state that the interest paid by the State upon the whole amount of this stock is now 3 per cent., although the dividend received by the proprietors of the 3,662,784*l.* of Company's trading stock is 3½ per cent. The additional half per cent. is obtained from certain fines to which the Company are entitled from ships trading within the bounds of their charter, and from the allowances made by Government for the management of this portion of the public debt.

2. *Debt due to the Bank of England*, amounting to 14,686,800*l.* This is money which has been advanced at different times by the Bank to the public; the Bank receives interest on it at the rate of 3 per cent.

, 3. *Bank Annuities, created in* 1726, amounting to 825,251 . This stock was originally 1,000,000*l.*, which was raised in 1726, by lottery, to pay off arrears that had accumulated on the Civil List, and for which Exchequer bills had been previously issued: it bears interest at 3 per cent.

4. *Consolidated Annuities*, commonly called *Three per Cent. Consols.* This is by far the largest of the public funds, its amount in January 1841 having been 362,542,977*l.* It was originally formed by the union of several funds which had before been kept separate, in the year 1751. At this its commencement it amounted only to a little above 9,000,000.. The interest paid upon this stock, as its name imports, is also 3 per cent.

5. *Three per Cent. Reduced Annuities*, amounting to 125,861,030*l.* This stock consists of various sums which have been originally borrowed at a higher rate of interest, but on which the interest has been afterwards reduced at different times to 3 per cent., which it now is. The first of these reductions as made by an act of Parliament passed in 1749, and the

several funds so reduced were consolidated into one capital in 1757, at which time they amounted altogether only to 17,571,574*l.*

These are all the funds (exclusive of the Irish stock, to be afterwards noticed) which at present bear an interest of only 3 per cent., the lowest that is paid upon any portion of the public debt. Their total amount on the 5th of January, 1841, was 510,388,944*l.*

6. *Annuities at 3½ per Cent.*, 1818, amounting to 10,159,721*l.* This stock was formed in 1818, partly by the funding of a quantity of Exchequer bills, and partly by the conversion of certain 3 per cent. consolidated and 3 per cent. reduced annuities; the holders purchasing the additional half per cent. by a money subscription, which was paid over in aid of the sinking fund. To this extent, in point of fact, the transaction amounted to the raising of a new loan.

7. *Reduced 3½ per Cent. Annuities*, amounting to 66,259,849*l.* This stock was formed in 1824, by the conversion of a former stock called the Old Four per Cents.

8. *New 3½ per Cent. Annuities*, amounting to 145,225,865*l.* This stock was formed in 1830 out of the former stock called the New Four per Cents.

These three are the only British funds at present bearing an interest of 3½ per cent.

9. *New 5 per Cent. Annuities*, amounting to 428,076*l.* This stock was formed in 1830, by the same arrangement out of which the New 3½ per Cent. Annuities then arose.

The following are the descriptions of Irish Stock at present existing, with the amount of each on the 5th of January, 1841:—

1. Bearing interest at 3 per cent.:—*The Irish Consolidated 3 per Cent. Annuities*, amounting to 3,272,607*l.*; and the *Irish 3 per Cent. Reduced Annuities*, amounting to 115,197*l.*

2. Bearing interest at 3½ per cent.:—*The 3½ per Cent. Debentures and Stock*, amounting to 14,567,562*l.*; the *Reduced 3½ per Cent. Annuities*, amounting to 926,633*l.*; and the *New 3½ per Cent. Annuities*, amounting to 12,390,823*l.*

3. The only 4 per Cent. Irish stock is *The 4 per Cent. Debt due to the Bank of Ireland*, amounting to 1,615,384*l.*

4. Bearing interest at 5 per cent.:—the *New 5 per Cent. Annuities*, amounting to 5,672*l.*; and the *5 per Cent. Debt due to the Bank of Ireland*, amounting to 1,015,384*l.*

The total amount of the Irish debt on the 5th of January, 1841, was 33,909,266*l.*

Besides these several stocks, there are the different descriptions of terminable annuities, all of which are also matter of purchase and sale in the money market. These, with the charges upon each for the year 1841, are—

1. *The Long Annuities*, occasioning an annual charge of 1,291,140*l.* These have been granted, at different times, chiefly as premiums or douceurs to the subscribers to loans, and all expire on the 5th of January, 1860.

2. *The Annuities per 4 Geo. IV. ch.* 22, commonly called *The Dead Weight Annuity*. This is an annuity of 585,740*l.* paid every year by the public to the Bank of England, and to be so paid till the year 1867, in consideration of advances to the amount of 13,089,419*l.* made by that establishment between the years 1823 and 1828, both inclusive, for the payment of the pensions to naval and military officers which had become due at the close of the war in 1814. By this arrangement a portion of the burden of these pensions—which, in 1814, amounted to nearly 5,000,000*l.* per annum—is, as already explained, spread out over a considerably longer period than that to which it would otherwise naturally have been confined, and its pressure upon the more limited space lightened accordingly.

3. *Life Annuities per* 48 *Geo. III., ch.* 142, 10 *Geo. IV., ch.* 24, and 3 *Will. IV., ch.* 14, occasioning a charge of 857,856*l.* These are annuities upon the lives of individuals, which the Commissioners for the redemption of the National Debt were originally empowered to grant by an Act passed in 1808, in exchange for so much stock in interminable annuities as was calculated to be of equivalent value, according to a scale varying with the fluctuations in the prices of stocks. In 1829, however, Mr. Finlaison, the Government actuary, discovered that the tables which had been all along used in these calculations were so erroneous, at the present improved value of human life, as actually to be occasioning an annual loss to the public of not much under 100,000*l.* On this the Act of 1808, and other Acts which had been subsequently passed on the same principle, were immediately repealed, and the Act upon which the annuities are now granted substituted for them.

4. *Annuities for terms of years, under the above Acts*, of which the present charge is 1,314,927*l.* These annuities are granted for various terms of ten years and upwards.

5. There are certain Tontines, and other Life Annuities granted by various Acts, of which those forming part of the English debt occasioned, in January, 1841, a charge of 19,969*l.*, and those forming part of the Irish debt a charge of 34,230*l.*

To this list we may add the two following descriptions of stock, as, although not forming portions of the public debt, being yet funds or capitals which are constantly operated upon by the sale and purchase of shares in the transactions of the money market:—

1. *Bank Stock*, being the trading capital of the Bank of England, or that upon which interest is paid to the proprietors, amounting formerly to 14,553,000*l.*, but since the last renewal of the charter, in 1833, to only 10,914,250*l.* The interest paid upon this capital to the shareholders was for some time—namely, from 1807 to 1823—as high as 10 per cent., and it is still 8 per cent. Extra distributions of profits have also been occasionally made.

2. *East India Stock*, or the capital belonging to the East India Company, amounting to 6,000,000*l.* Ever since 1793 the interest upon this stock has been 10½ per cent.

Besides these English funds, shares in many descriptions of foreign stocks, which have been created by loans raised in this country, are constantly for sale in the money-market, as are also shares in railway, canal, mining, and numerous other similar speculations. But to these it does not belong to our present purpose more particularly to advert.

The several establishments at which the different parts of the national debt are managed are the Bank of England, the South Sea House, the Bank of Ireland, and the National Debt Office in the Old Jewry. At the Bank of Ireland are paid all the dividends on Irish stock; and at the National Debt Office are paid the life annuities granted under 10th Geo. IV., and also the English and Irish Tontines and other life annuities granted under various Acts; the dividends on the different descriptions of South Sea Stock at the South Sea House; and those on all the remaining descriptions of public stock at the Bank of England. The dividends on India stock are paid at the India House.

The dividends on all descriptions of stock are paid half-yearly, either on the 5th of January and the 5th of July, or on the 5th of April and the 10th of October.

For each description of stock also are appointed certain days of the week, on which only transfers may be recorded in the books kept at the different establishments where the dividends are paid.

The following is a list of the Stocks managed at the Bank of England, the South Sea House, and the India House, with the transfer days for each; and also the days on which the dividends are used .—

BANK OF ENGLAND.

Name of Stock.	Dividends Payable.	Transfer Days.
3 per Cent. Consols	5th Jan. and 5th July ..	Tues. Wed. Th. Frid.
New 3½ per Cents.	,,	Tues. Wed. Th. Frid.
New 5 per Cents	,,	Tues. Wed. Fri.
Bank Annuities, 1726	,,	Tues. Thurs.
Bank Stock................	5th April and 10th Oct..	Tues. Th. Frid.
3 per Cents. Reduced......	,,	Tues. Wed. Th. Frid.
3½ per Cents. 1818..........	,,	Tues. Th. Frid.

BANK OF ENGLAND—*continued.*

Name of Stock.	Dividends Payable.	Transfer Days.
3½ per Cents. Reduced.....	5th April and 10th Oct.	Tues. Wed. Th. Frid.
4 per Cent. 1826	,,	Mon. Wed. Fri.
Long Annuities...........	,,	Mon. Wed. Sat.
SOUTH SEA HOUSE.		
South Sea Company's Stock	5th Jan. and 5th July ..	Mon. Wed. Fri.
New South Sea Annuities .	,,	Tues. Th. Sat.
South Sea Annuities, 1751 .	,,	Tues. Thurs.
Old South Sea Annuities...	5th April and 10th Oct..	Mon. Wed. Fri.
EAST INDIA HOUSE.		
India Stock................	5th Jan. and 5th July...	Tues. Th. Sat.

Generally speaking, the price of a certain nominal amount of stock in any particular fund will bear to its price in any other fund the same relation which subsists between the rates of interest in the two funds. For example, if 100*l.* in a 3 per cent. stock cost 90*l.*, the same amount will cost 105*l.* in a 3½ per cent. stock, and 120*l.* in a 4 per cent. stock; for each of these investments will yield the same interest—namely, 3*l.* 6*s.* 8*d.* per cent. The price of any one description of stock, therefore, may be usually taken as a pretty sufficient indication of the prices of the rest.

Fluctuation of Prices of the Funds.

There are peculiar circumstances which sometimes elevate or depress the market prices of certain kinds of stock beyond the degree to which they ought to be affected merely by the unequal rates of interest. Thus, a stock, the interest of which is likely to be reduced, either immediately, or sooner than the same operation will probably be attempted on any other stock, will not generally bear the same price in the market with another stock as to which such an apprehension is not entertained. Hence, stock of a high denomination may usually be bought cheaper than that of which the nominal interest is lower. Again, stock in which, either from its small amount, or some other cause, there is comparatively but little speculation, will not in general sell at so high a price as that in which more frequent fluctuations offer a greater lure to the gambling propensity. Thus the stock called the Three per Cent. Bank Annuities of 1726, the entire amount of which is considerably under 1,000,000*l.*, has usually been at least 1 per cent. lower in price than the Three per Cent. Consols. In other cases, however, it is extremely difficult to assign any cause, beyond the mere caprice of the public mind, for the preference given to one species of stock over another.

As for the causes which affect the price of stocks generally, the leading and most permanently influential must, of course, always be the current rate of interest, which again is determined by the common rate of profits; if, indeed, we should not rather say, that the rate of profit, wherever it arises from the employment of capital, is dependent upon the rate of interest, and that upon the proportion between the supply of capital and the demand for it, the action of the great principle of supply and demand thus regulating the price of money as it regulates all other prices. In ordinary times, the public funds, from the certainty and regularity in the payment of the dividends, and the great facility with which transfers may be made, offer as advantageous an investment as any other which is open to capitalists; and the price of stocks, accordingly, will commonly be so high as not to afford the purchaser more than the current rate of interest for money lent upon good security. The chances of fluctuation, however, will, in general, prevent the price from rising much beyond this point. On the other hand, it will be apt to be depressed to a lower level, not only by any actual derangement in the public finances, but also by whatever may be supposed to have ever so indirect or remote a tendency to affect the ability of the State to fulfil its pecuniary engagements. Whenever a new loan is raised, inasmuch as the burden of the debt is thereby increased, the price of stock is generally lowered for the moment. Again, it is usually lower in time of war than in time of peace; and during an unfortunate than during a successful war. It is often affected by the apparent stability of the administration as dependent upon the issue of the party contests in Parlia- [illegible] funds has been brought down by the imposition of a tax, sometimes by the repeal of one. In the former case, the delicate and apprehensive pulse of the money-market may be supposed to have been acted upon, commonly, either by a dread of the public impatience under a new burden, or by the view taken of the measure as an indication of increased financial difficulties on the part of the State; in the latter, by a feeling of the security of the fundholder being in some degree diminished, in consequence of the extinction of one of the usual sources from which the dividends, together with the other expenses of the Government, have been paid. But it would be scarcely possible to arrange, under any number of general heads, all "the skyey influences" that are capable of elevating or depressing this most sensitive barometer, the nature of which is to be agitated by every breeze of popular exhilaration or nervous despondency, by every fit of suspicion or confidence, by every hope and fear, almost by every passion, imagination, and caprice of the human breast. It may be observed, however, that in the fluctuations of the funds, a fall of prices by what we may call a start or a leap has been a much more frequent phenomenon than an equally sudden rise to any considerable extent. The depression which is at once produced by a panic is generally recovered from only by degrees.

Mr. M'Culloch ('Dictionary of Commerce,' 2nd edit., p. 589) has given the following summary of the history of the fluctuations of the stock forming the principal part of the public debt:—"From 1730 till the rebellion of 1745, the Three per Cents. were never under 89, and were once, in June, 1737, as high as 107. During the rebellion they sunk to 76; but in 1749, rose again to 100. In the interval between the peace of Paris, in 1763, and the breaking out of the American war, they averaged from 80 to 90; but towards the close of the war they sunk to 54. In 1792 they were, at one time, as high as 96. In 1797 the prospects of the country, owing to the successes of the French, the mutiny in the fleet, and other adverse circumstances, were by no means favourable; and, in consequence, the price of Three per Cents. sunk, on the 20th of September, on the intelligence transpiring of an attempt to negotiate with the French Republic having failed, to 47¼, being the lowest price to which they have ever fallen."

Dr. Hamilton quotes the following statement as that which has been given of the highest and lowest prices of the stocks since 1720:—

Highest Prices.

Three per Cents.	June,	1739	. . 107
Four per Cents.	August,	1791	. . 107½
Five per Cents.	August,	1791	. . 122¼
Bank Stock	February,	1792	. . 219
South Sea Stock	May,	1768	. . 111
India Stock	December,	1768	. . 276½

Lowest Prices.

Three per Cent. Consols . .	January,	1798	47⅜
Three per Cent. Reduced . .	June,	1797	47
Four per Cents.	January,	1798	59½
Five per Cent. Navy	January,	1798	69⅝
Bank Stock	January,	1782	91
South Sea Stock	February,	1782	62
India Stock	January,	1784	118½

The following is an account of the average prices* of the Three per Cent. Consols in the months of February and August of each year since 1820, inclusive:—

1820.	February . .	68¼	1826.	February	77
	August . .	67⅜		August	79¼
1821.	February . .	73¼	1827.	February	82
	August . .	76¼		August	86
1822.	February . .	78⅜	1828.	February	83
	August . .	80⅜		August	87
1823.	February . .	73	1829.	February	86
	August . .	82¾		August	88¼
1824.	February . .	92⅜	1830.	February	91½
	August . .	93¾		August	90¼
1825.	February . .	93¼	1831.	February	77⅞
	August . .	87¼		August	81⅜

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* The prices from Feb. 1836 are [illegible] ices of the month, but for some particular day in the last week of e[illegible] month.

1832.	February	82½	1837.	February	91⅛
	August	83⅞		August	91¾
1833.	February	87½	1838.	February	92½
	August	88⅝		August	94⅞
1834.	February	89⅞	1839.	February	92¾
	August	90		August	92½
1835.	February	91¾	1840.	February	91⅛
	August	90		August	90½
1836.	February	91⅛	1841.	February	89⅞
	August	91⅛		August	89¾

Mode of transacting Business in the Fund Market.

In former times all transactions in the sale and purchase of stock used to take place in 'Change Alley, or THE ALLEY, as it was commonly called. This was the centre of the excitement and bustle of the famous South Sea bubble in the year 1720. Afterwards these bargains came to be made in the room in the Bank of England buildings, called the Rotunda; and some business is still done here by a certain description of persons. Bargains in stock by the regular brokers, however, are now transacted in the building called the New Stock Exchange, at the upper end of Capel Court, which was erected by the Committee in 1804. Brokers and jobbers, who are not members of the Stock Exchange, assemble in the open court in front of the building. A jobber is a person whose business it is to accommodate buyers and sellers with the exact sums they want. The jobbers are, in general, possessed of considerable property in the funds.

Almost all transfers of stock are effected through the agency of brokers, all the more respectable of whom are members of the Stock Exchange, into which association they are elected annually by ballot. The Committee of the Stock Exchange is the governing body of the establishment, and consists of 24 members, elected by ballot. A broker acting for another party must be authorised to do so by a power of attorney granted by his principal. This warrant, which is on a stamp that costs 1*l.* 1*s.* 6*d.*, may be so drawn as to empower the broker both to buy and sell stock, and also to receive the dividends for the person by whom he is commissioned. Many persons, however, who would not venture to sell or purchase stock except through the medium of a broker, are in the habit of calling at the Bank for their dividends themselves.

In the money-market, as in any other market, there are, of course, always one set of persons inclined to buy, and another to sell, the commodity dealt in, whatever may be its price at the moment. The very meaning of a market price is, a rate at which there are both buyers and sellers; it is a point up to which the value of the commodity is forced by the demand for it, but beyond which it cannot rise without the sale of the commodity being put a stop to altogether. This is the only price, properly so called; for a price at which there are no dealings is no price at all, for any practical end, and it matters not what may be its nominal amount—whether it be any particular sum, or a hundred or a thousand times as much. At whatever point, then, to which the price of stock is brought by this balance between the supply and the demand, if there be any business done in the article at all, there will be in the market both parties ready to buy, and other parties desirous to sell. The business of the broker consists in selecting the particular moment at which it is most advantageous to buy or sell. This, of course, he has to do by exercising his judgment both upon the probable movement of the price of the stocks, and upon the particular circumstances and exigencies of the case in which he acts.

When a bargain in stock has been arranged between two parties in the market, they must resort to the Bank or the South Sea House (according to the fund) for the ratification of their agreement and the actual transference of the stock. "For this purpose," to quote the detail of the forms as given by Dr. Hamilton, "the seller makes out a note in writing, which contains the name and designation of the seller and purchaser, and the sum and description of the stock to be transferred. He delivers this to the proper clerk,* and then fills up a receipt, a printed form of which, with blanks, is obtained at the office. The clerk, in the mean time, examines the seller's accounts; and if he find him possessed of the stock proposed to be sold, he makes out the transfer. This is signed in the books by the seller, who delivers the receipt to the clerk; and upon the purchaser's signing his acceptance in the book, the clerk signs the receipt as witness. It is then delivered to the purchaser upon payment of the money, and thus the business is completed."

The established rate of brokerage is one-eighth per cent. (or 2*s.* 6*d.* in the 100*l.*) upon the amount of stock transferred. There is no stamp-duty or tax of any kind upon transfers of Government Stock; but the transfer of Bank Stock under 25*l.* costs 9*s.*, above that amount, 12*s.*; of South Sea Stock under 100*l.*, 10*s.*, above it, 12*s.*; and of India Stock, of any amount, 1*l.* 12*s.*

The dividends, it is to be observed, are not actually paid till some days (usually about a week) after they have become due; and the books at the Transfer Offices are always shut for about six weeks previous to the days of payment, during which period no transfers can be regularly made. Good Friday, Christmas Day, and the 1st of May and 1st of November (or the Monday following either of these two last-mentioned days, if it should fall on a Sunday), are also kept as holidays at the South Sea House and the Transfer Office in the Bank. The holidays in these establishments formerly amounted to forty-four in the year. At the India House the only holidays are Good Friday and Christmas Day.

In every sale of stock, the purchaser, at whatever time the sale may be made, purchases, along with the stock, the dividends upon it for the current half-year. In consequence of this, every description of stock, whatever other circumstances may affect its actual price in the market, rises in real value every day from term to term; and, if the action of all other circumstances were to be excluded, its price would, in point of fact, continue so to ascend. A person purchasing 100*l.* 3 per cent. consols, immediately before the shutting of the books for the dividends in July, acquires precisely the same amount of property as if he had made a similar purchase at the opening of the books immediately after the payment of the dividends in the preceding January; but as he has saved nearly half-a-year's interest upon his money by so deferring his investment, he will be willing, of course, to pay a correspondingly higher price for the stock at the one date than he would have paid at the other. Supposing the interval between the two dates to be four months, and the current rate of interest to be 3½ per cent., the Three per Cent. Consols, when that stock is at 90, should be worth about 1 per cent. more at the shutting than at the opening of the books. Table A shows the proportion of half-yearly interest which has accrued upon the various public funds mentioned therein, on the 1st and 15th days of each month during the year.

In addition, however, to the actual transfers negotiated in the manner we have just explained, a vast deal of business is done in the money-market, both when the books are open and when they are shut, in what are called bargains *for time*. In these transactions one party engages to sell to another for a certain sum a certain amount of stock on a certain future day, the calculation of the seller being that by the day in question the market price of stock will be lower, that of the buyer that it will be higher than the price agreed upon. If the bargain thus made were to be actually carried into effect, the seller, in case of the price turning out to be below that stipulated for, could purchase the requisite quantity of stock in the open market for a less sum than he would have to receive for it, and would therefore be a gainer by the difference between the two sums, while the buyer would be a loser by the same difference: in case of the price rising above that stipulated for, exactly the reverse would happen. The matter, however, is usually settled without any actual delivery of the

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seller must apply to the clerk who has his station under the initial of his name. In all the offices there are supervising clerks who join in stock, but simply by the losing party paying the difference. "These bargains," says Dr. Hamilton, "are usually made for certain days fixed by a committee of the Stock Exchange, called *settling days*, of which there are about eight in the year,—viz., one in each of the months of January, February, April, May, July, August, October, and November; and they are always on Tuesday, Wednesday, Thursday, or Friday, being the days on which the commissioners for the reduction of the national debt make purchases. The settling days in January and July are always the first days of the opening of the Bank books for public transfer; and these days are notified at the Bank, when the books are shut to prepare for the dividend. The price at which stock is sold to be transferred on the next settling day is called the price *on account*. Sometimes, instead of closing the account on the settling day, the stock is carried on to a future day on such terms as the parties agree on. This is called a *continuation*."

These practices are evidently nothing else than a sort of betting, or gambling in the public funds; and as such, they have been discountenanced by the Legislature, and endeavours have been made to repress them by means of prohibitions and penalties. As these attempts, however, have wholly failed of their design, it may be questioned if there be any wisdom in persisting in them. Besides, it is by no means clear that any mischief is really done by this kind of speculation in the funds. The consequence, however, of the denouncement of such transactions by the law is, that bargains for time cannot be enforced in the courts, and the parties, therefore, are only to be held to them by a sense of honour, and by such restraints in the way of exposure and degradation as a private society like the Committee of the Stock Exchange may apply to its members. Parties not fulfilling their engagements cease to be members of the society, and are incapable of being re-admitted; their names are also posted up for a certain time in the Great Room. In this way their credit on 'Change is, of course, effectually destroyed. Such defaulters, in the language of the Stock Exchange, are called *Lame Ducks*. In the same technical dialect the seller, in a bargain for time, is termed a *Bear*, and the buyer a *Bull*—in allusion, it is commonly said, to the nature of the opposite interests of the two parties—that of the seller being to beat down prices, as the bear tramples anything under its feet—that of the buyer, to elevate them, as the bull is accustomed to toss the object of its attack into the air.

Instead of the fundholders, as is popularly imagined, being generally persons of great wealth, it appears that the yearly dividends of about a third of them do not exceed 10*l*. for each person, and that those of very nearly five-sixths of them do not yield more than 100*l*. a-year to each. But further, as Mr. M'Culloch has remarked, "it is evident from this account, that the number of persons having a direct interest in the funds is much greater than it represents. The dividends upon the funded property belonging to the Equitable and other insurance companies, the different banking companies, &c., are paid upon single warrants, as if they were due to so many private individuals; whereas they are really paid to these individuals only because they act as factors or trustees for a vast number more. It is consequently quite absurd to pretend, as is sometimes done, that any interference with funded property would affect only 280,000 individuals out of a population of 25,000,000. Any attack upon the dividends would really be destructive, not merely of the interests of those to whom dividend warrants are issued, but of *all* who depend upon them; it would destroy our whole system of insurance and banking, and overspread the country with bankruptcy and ruin. Not only, therefore, is every proposal for an invasion of the property of the fundholders bottomed on injustice and robbery, but it would, were it acted upon, be little less ruinous to the community than to the peculiar class intended to be plundered."

The number of individuals directly interested in the public funds as proprietors of stock is very considerable. The following statement will show that the holders of stock to a comparatively small amount bear a large proportion to the whole number of persons having money invested in the funds:—

Not exceeding	1833.	1839.
£5	87,176	85,069
10	41,618	45,147
50	98,305	98,946
100	25,641	26,205
200	14,701	14,816
300	4,495	4,523
500	2,827	2,759
1,000	1,367	1,337
2,000	266	384
Exceeding £2,000		192

By means of the savings' banks the National Debt is rendered a means of facilitating the accumulation of capital. In France the means of purchasing stock in the funds have been considerably extended since 1819. In that year auxiliary *Grands Livres* (called *Petits Grands Livres*) were opened in the provinces, and, as the 'Foreign Quarterly Review' (No. xiv. p. 418) remarks, "by familiarising the people with the subject, and facilitating the means of drawing out their money, added greatly to the demand for public securities, which was still further increased by reducing, in 1822, the minimum of an investment from fifty livres (about 2*l*.) to ten, and giving various facilities for transfer and receipt of dividends in these small accounts." The disposition to hoard money is very strong in France, and it was therefore politic to adopt measures for encouraging its circulation. In England the savings' banks offer nearly the same facilities as the *Petits Grands Livres* in France; and the rate of interest being fixed andindependent of the prices of stock, a spirit of gambling is not encouraged. To the numbers in the above table, represented as being directly interested in the stability of the funding system, there ought to be added the depositors in savings' banks, which in November, 1839, comprised 748,396 persons, whose investments amounted to the sum of 22,425,812*l*.; of which 19,246,221*l*. belonged to 622,468 depositors in England, exclusive of Wales.

TABLE A.

		No. 1. 3 per cent. stock: dividends payable 5th Jan. and 5th July.		No. 2. 3 per cent. stock: dividends payable 5th Apr. and 10th Oct.		No. 3. 3½ per cent. stock: dividends payable 5th Jan. and 5th July.		No. 4. 3½ per cent. stock: dividends payable 5th Apr. and 10th Oct.	
		s.	d.	s.	d.	s.	d.	s.	d.
Jan.	1	29	4	14	1	34	3	16	5
,,	15	1	8	16	5	1	11	19	2
Feb.	1	4	6	19	4	5	2	22	6
,,	15	6	9	21	9	7	17	25	4
Mar.	1	9	1	24	1	10	0	28	1
,,	15	11	5	26	5	13	4	30	10
Apr.	1	14	3	29	4	16	8	31	3
,,	15	16	7	1	7	19	3	1	10
May	1	19	3	4	3	22	4	4	10
,,	15	21	7	6	4	25	1	7	5
June	1	24	4	9	1	28	5	10	7
,,	15	26	8	11	4	31	1	13	2
July	1	29	4	13	10	34	3	16	2
,,	15	1	8	16	2	1	11	18	0
Aug.	1	4	5	18	10	5	3	21	11
,,	15	6	8	21	0	7	11	24	7
Sept.	1	9	1	23	9	11	2	27	9
,,	15	11	9	26	0	13	10	30	4
Oct.	1	14	4	28	6	16	11	33	2
,,	15	16	8	0	10	19	7	1	0
Nov.	1	19	5	3	9	22	9	4	4
,,	15	21	8	6	1	25	6	6	11
Dec.	1	24	4	8	3	28	4	10	3
,,	15	26	7	11	2	31	0	13	1

Column 1 applies to 3 per Cent. Consols;—3 per Cent. 1726;—New South Sea Annuities.
,, 2 applies to 3 per Cent. Reduced, and Old South Sea Annuities.
,, 3 applies to New 3½ per Cent., and South Sea Stock.
,, 4 applies to 3½ per Cent. Consols.

* The number for this year cannot be given.

OFFICIAL STATEMENTS RELATING TO THE NATIONAL DEBT.[*]

1.—ACCOUNT showing the State of the PUBLIC DEBT, both as to CAPITAL and CHARGE, excluding the LOANS raised for the Emancipation of the SLAVE POPULATION in the COLONIES.

Year.	Unredeemed Public Funded Debt.			Annual Interest.			Annuities for Lives, and for Terms of Years.			Management.			Total Annual Charge of Unredeemed Public Funded Debt.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
1827 . .	777,476,892	0	5¾	25,500,320	13	3¾	2,610,754	11	6½	278,788	7	6	28,389,869	12	4½
1830 . .	757,486,906	17	6½	24,102,200	0	4½	3,297,375	11	1¾	275,179	3	4	27,674,754	14	10
1834 . .	743,675,299	16	9¾	23,603,602	12	9½	4,028,777	3	0½	151,174	19	6¾	27,783,454	15	4½
1840 . .	746,200,100	17	6¾	23,652,933	14	5½	4,012,146	3	11	151,547	12	9½	27,816,627	11	2

2.—ACCOUNT showing the State of the PUBLIC DEBT, both as to CAPITAL and CHARGE, supposing the Terminable Annuities be converted into equivalent Perpetual Annuities.

Year.	Unredeemed Public Funded Debt, including the Value in Capital of the Terminable Annuities.			Annual Interest, including the Interest of the Value in Capital of the Terminable Annuities.			Management.			Total Annual Charge of Unredeemed Public Funded Debt.		
	£.	s.	d.	£.	s.	d.	£	s.	d.	£.	s.	d.
1827	822,778,347	13	2¾	27,085,877	12	2¾	279,500	17	0¾	27,365,378	9	3½
1830	811,278,253	0	8½	25,984,593	19	8¼	273,572	5	0¼	26,258,466	4	8½
1834	799,583,378	5	7¾	25,560,285	7	10¼	152,124	14	6½	25,712,410	2	4¾
1840, including Slave Emancipation Loan . . .	815,250,634	4	10¾	25,994,702	7	9½	156,132	12	5¼	26,150,835	0	2¾
,, excluding said Loan. .	793,686,885	15	2¾	25,311,971	3	10½	149,663	9	11½	25,461,634	13	10

3.—ABSTRACT showing the State of the PUBLIC DEBT, Funded and Unfunded, both as to CAPITAL and CHARGE,—1st, Including the LOANS raised for the Emancipation of the SLAVE POPULATION in the Colonies; 2nd, Excluding the said LOANS.

Year.	Unredeemed Public Debt, Funded and Unfunded.	Annual Interest.	Annuities for Lives, and for Terms of Years.	Management.	Total Annual Charge of the Unredeemed Public Debt, Funded and Unfunded.
	£.	£.	£.	£.	£.
1827	805,023,742	26,338,210	2,610,754	278,788	29,227,752
1830	784,758,646	24,724,629	3,297,375	275,179	28,297,183
1834	773,201,900	24,289,161	4,028,777	151,175	28,469,113
1840, including Slave Emancipation Loan . . .	788,642,775	25,042,658	4,114,021	158,363	29,314,942
,, excluding said Loan. .	768,471,151	24,411,551	4,012,146	151,547	28,575,245

4.—ABSTRACT showing the State of the PUBLIC DEBT, Funded and Unfunded, both as to CAPITAL and CHARGE, supposing the Terminable Annuities be converted into equivalent Perpetual Annuities.

Year.	Unredeemed Public Debt, Funded and Unfunded, including the Value in Capital of the Terminable Annuities.	Annual Interest, including the Interest of the Value in Capital of the Terminable Annuities.	Management.	Total Annual Charge of the Public Debt, Funded and Unfunded.
	£.	£.	£.	£.
1827	850,325,193	27,923,760	279,501	28,203,261
1830	838,549,203	26,607,323	273,572	26,880,895
1834	829,109,978	26,245,914	152,126	26,398,069
1840, including Slave Emancipation Loan . . .	837,521,684	26,753,320	156,133	26,909,453
,, excluding said Loan. .	815,957,936	26,073,589	149,663	26,223,253

THE MINERAL KINGDOM.

There is perhaps no portion of the earth's surface, of the same extent, which contains so great a variety of those mineral substances which minister to the necessities and comforts of life, as the island of Great Britain. The almost inexhaustible mines of coal, which are found in so many different parts of the island, have unquestionably been one of the chief sources of our wealth, and of our influence among the other nations of Europe. All our great manufacturing towns—Birmingham, Leeds, Sheffield, Manchester, Glasgow, Paisley—are not only situated in the immediate vicinity of coal, but never would have existed without it. If we had possessed no coal, we should have lost the greater part of the wealth which we derive from our metallic ores, for they could neither have been drawn from the depths where they lie concealed, nor, if found near the surface, could they have been profitably refined. Without coal the steam-engine would probably have remained among the apparatus of the philosopher: not only did the fuel supply the means of working the machine, but the demand for artificial power, in order to raise that same fuel from the bowels of the earth, more immediately led to the practical application of the great discovery made by Watt while repairing the philosophical instrument of Dr. Black. Before the invention of the steam-engine, the power required to move machinery was confined to the impelling force of running water, of wind, of animal and human strength,—all too weak, unsteady, irregular, and costly to admit of the possibility of extensive application. But the steam-engine gave a new power to the human race, capable of being applied to every purpose, and in every situation where fuel can be found. Thus manufactures arose, and from the cheapness with which labour could be commanded, and the prodigious increase of work done in the same space of time, their produce was so reduced in price as to bring luxuries and comforts within the reach of thousands who never enjoyed them before. New tastes thus excited and increasing consumption multiplied manufacturing establishments, and *their* demands led to great manufactures of machinery; competition led to improvement in the steam-engine itself, and thus, by the reciprocal action of improvement and demand, our machinery and manufactures gradually acquired their present high degree of perfection. With the improvement of the steam-engine came the application of it to navigation and to wheel-carriages, which has already, in a few years, produced such extraordinary results.

Next to coal, iron is the most important of our mineral treasures: and it is a remarkable circumstance, that the ore of that metal should in Great Britain be placed in greatest abundance, not only in the vicinity of, but actually associated with, the coal necessary to separate the metal from the impurities of the ore, so as to render it fit for use. In Sweden, and most other countries where iron-mines exist, the ore is refined by means of wood; but no space on the surface of our island could have been spared to grow timber for such a purpose; and thus, without coal, in place of being, as we are now, great exporters of wrought and unwrought iron to distant nations, we must have depended on other countries for this metal.

There are extensive mines of lead in Derbyshire, Yorkshire, Northumberland, Lanarkshire, Dumfriesshire, and several other places in Great Britain, sufficient not only for the internal demand for that metal, but yielding a considerable amount for exportation. Copper is produced in large quantities in Cornwall, and the same county has been celebrated for its tin-mines for nearly two thousand years.

Coal, iron, lead, copper, and tin, are the principal minerals of our country, which, in common language, are usually associated with the idea of the produce of mines. There is no silver or gold, with the exception of a little of the former contained in some of the ores of lead, and which is separated by refining, when in sufficient quantity to yield a profit beyond the expense of the process; but we have some other metals highly useful in the arts, such as zinc, antimony, and manganese.

Besides the substances above mentioned, we have many other mineral treasures of great importance. Of these the most valuable perhaps is limestone, from its use in agriculture, and from its being an indispensable ingredient in mortar for building; and there are not many parts of the island far distant from a supply of this material. Building-stone is found in most parts of the country; and although we must go to Italy for the material for the art of sculpture to be employed upon, we have freestones applicable to all the purposes of ornamental architecture, and we have many marbles of great beauty. If stones be far off, clay is never wanting to supply a substitute; and the most distant nations have their daily food served up in vessels, the materials of which, dug from our clay-pits, have given occupation to thousands of our industrious population in our potteries and china manufactures. For our supply of salt, that essential part of the daily sustenance of almost every human being, we have in the mines and salt springs of Cheshire and Worcestershire almost inexhaustible stores of the purest quality, unmixed with those earthy and other ingredients which must be separated by an expensive process, before a culinary salt can be obtained from the water of the sea.

Familiar as is almost every one of the mineral substances we have named, in the common business of life, there are many persons who have a very imperfect idea from whence they are derived, and what previous processes they undergo before they can be made applicable to use. We therefore propose to make them acquainted with the natural history of our mineral treasures, with the mode in which they are obtained from the mines, and with the operations they are subjected to, before they can be brought forward as marketable commodities. To do this, however, in an intelligible manner, some preliminary information is indispensable, without which the terms we must employ would not be understood. This introductory matter will embrace a popular sketch of the leading doctrines in Geology, that department of science whose object is to investigate the nature and properties of the substances of which the solid crust of the earth is composed; the laws of their combinations, as constituting the elements of rocks and other stony masses; the arrangement of these different masses, and their relations to each other; the changes which they appear to have undergone at various successive periods; and, finally, to establish a just theory of the construction of that solid crust.

The term Geology is derived from two Greek words meaning a *discourse* (logos), respecting the *earth* (ge). In giving an outline of this science, our sole purpose is to render our description of some of the principal mineral productions that we meet with in common life more intelligible. We mean to confine ourselves to the great general truths which have been discovered, without entering upon any detail of the proofs and reasonings upon which these have been established.

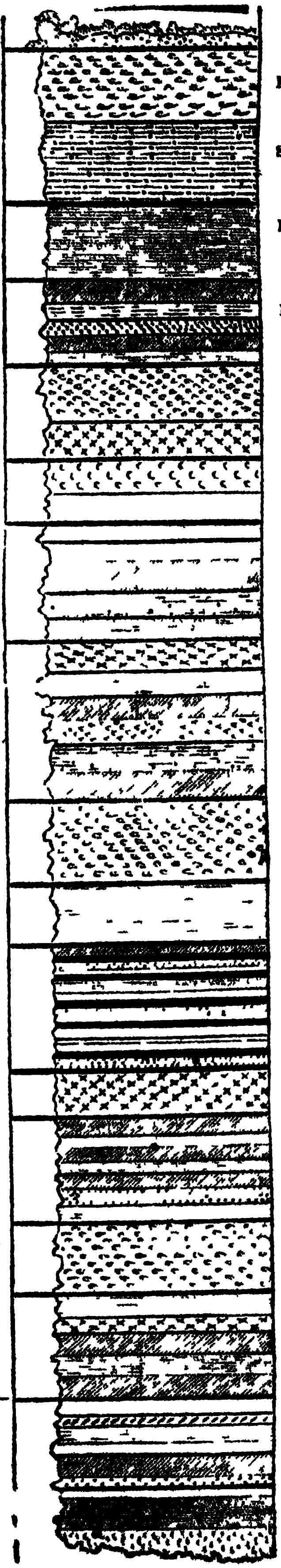
The earth is a spherical body, somewhat flattened at the poles, the diameter from pole to pole being about 27 miles less than that which intersects the equator; more than three-fifths of its surface are covered by the ocean; the land rises from the surface of the sea in the form of islands and of great continuous masses called continents, without any regularity of outline, either where it comes in contact with the water, or in vertical elevation,—*its* surface being diversified by plains, valleys, hi[illegible] and mountains, which sometimes rise to the height of 2[illegible] feet above the level of the sea. Numerous soundings [illegible]ent parts of the world have shown that the bottom [illegible] is as diversified by inequalities as the surface of the land: a great part of it is unfathomable to us, and the islands and continents which rise above its surface are the summits of mountains.

Different climates produce different races of animals and different families of plants; but the mineral kingdom, as far as the nature of stone is concerned, is independent of the influence of climate, the same rocks being found in the polar and in the equatorial regions. From all the observations hitherto made, there is no reason to suppose that any unexplored country contains mineral bodies with which we are not already acquainted; and although we cannot say of what rocks an unexamined land is likely to be composed, it is extremely improbable that any extensive series of rocks should be found, constituting a class different from any which have been already met with in other parts of the globe.

... When we dig through the vegetable soil we usually come to clay, sand, or gravel, or to a mixture of these unconsolidated materials; and, in some countries, we shall probably find nothing else at the greatest depths to which we are able to penetrate. But in most places, after getting through the clay and gravel, we should come upon a hard stone, lying in layers or beds parallel to each other, either of one kind or of different kinds, according to the depth; and which would vary in different countries, and in different places in the same country, as well in its constituent parts as in the thickness, alternation, and position of its beds or layers. It has been ascertained by observation in various parts of the world, that the crust of the earth is composed of a series of such layers, distinguishable from each other by very marked characters. The elements of which they are composed are not very numerous, being for the most part the hard substance called quartz by mineralogists, of which gun-flints may be cited as a familiar example, and the well-known substances, clay and limestone; but these elements are aggregated or mixed up together in so many proportions and forms as to produce a considerable variety of rocks. Besides this elementary composition, or what may be termed their *simple* structure, the greatest proportion of the rocks that are so arranged in layers contain foreign bodies, such as fragments of other rocks, shells, bones of land and amphibious animals and of fishes, and portions of trees and plants. It has further been found that these different layers, or *strata* as they are called, lie upon each other in a certain determinate order, *which is never, in any degree, inverted*. Suppose the series of strata to be represented by the letters of the alphabet, A being the stratum nearest the surface, and Z the lowest: A is never found *below* Z nor under any other of the intervening letters; nor is Z ever found *above* any of the letters that stand before it in the alphabet; and so it is with all the strata represented by the other letters. This will be rendered more clear by the annexed diagram, which is an imaginary section of the crust of the globe, representing a series of different strata. On one side there is a general description of the nature of the stone; on the other the name of some particular place where that stratum is to be seen. But although this regularity *in the order* of superposition exists, all the different members of the series do not always occur together; on the contrary, there is no instance where they have all been found in one place. It possibly may happen that where C is found in a horizontal position, by going deeper all the rest would follow in succession, but this we can never know, as the thickness would be greatly beyond our means of penetrating; and there are reasons which render the existence of such an uninterrupted series extremely improbable. It very seldom happens that more than three or four members *of the series* can be seen together;—we say of the series, because each member is composed of an almost infinite number of subordinate layers. This order of succession has been determined by the combination of many observations made in different countries at distant points. The order of three or four members was ascertained in one place; the *upper* stratum in that place was found to be the lowest member of a second series in another place, and the *lowest* stratum at the first station was observed to be the uppermost at a third point; and in like manner the order of superposition was discovered throughout the whole range. The strata which lie next each other in the diagram are not always so in nature; as for instance, it very often happens that F lies upon H, G being altogether absent; and C may even be seen lying on R, the whole of the intervening members of the series being wanting. Very frequently one of the lowest members of the series appears at the surface. Every one knows that sometimes chalk, sometimes slate, lies immediately beneath the vegetable soil, or even at the surface without that scanty covering; but if a lower member of the series represented in the diagram be seen at the surface, however deep we might go, we should never find any one of those rocks that belong to the higher members of that series. The immense practical advantage of this knowledge of the determinate order of succession will be seen at once; for if O, or any of the lower members of the series, were found to occupy the surface of the country, it would be at once known that all search for coal in that spot would be fruitless.

Geologists have fixed the order of superposition in the strata composing the crust of the globe, partly by the mineral composition of each member of the series, partly by their containing fragments of other rocks, but chiefly from the remains of animals and plants that are imbedded in them. It was observed that there was a class of rocks distinguished by a considerable degree of hardness, by closeness of texture, by their arrangement in slaty beds, and by possessing, when in thick masses, a glistening structure called crystalline by mineralogists, and of which statuary marble, or loaf sugar, may be quoted as familiar examples: when associated with rocks of another sort, also, they always were lowest.—These are marked R in the diagram No. 1. Above and in contact with them another group of strata was observed, which had a good deal of resemblance to those below them in mineral composition, but contained rounded fragments of other rocks, and when these fragments were examined they were found to be identical with the rocks composing the lower strata. This second series was observed to be covered by another group of strata which contained shells and corals, bodies that had never been seen in any of the lower strata. Thus it was clear that previous to the formation of this third group there had existed rocks to supply the imbedded fragments, and to contain the waters of the ocean in which the animals that once inhabited the shells must have lived. Observing the strata as they lay one above another towards the surface, it was found that many were entirely composed of the fragments of pre-existing rocks either in the form of pebbles or of sand cemented together; that there was a vast increase in the number and variety of the imbedded shells, the latter forming very often entire beds of rock, many feet in thickness; and that the remains of plants began to appear. In this manner certain great divisions of the strata were established by very clear and infallible distinctive characters. But about 35 years ago, Mr. William Smith, of Churchill, in Oxfordshire, by an extensive series of observations in different parts of England, ascertained that particular strata were characterized by the presence of certain fossil shells, which were either confined exclusively to them, or in predominating quantity, or were of rare occurrence in other strata; and he was thus enabled to identify two rocks at distant points as belonging to one stratum, when mere mineral characters would either have left him in uncertainty, or have entirely failed in deciding the question. When this discovery became known to geologists, numerous observations were made in other countries, which completely proved that the principle held good generally, and throughout the whole series of strata, from the lowest in which organic remains are found to those nearest the surface. Under the direction of this guide, geologists have been enabled to discover lines of separation in the great divisions which had been established by prior observations, pointing out distinct epochs of deposition, and revealing a succession of changes in the organic and inorganic creation, in a determinate chronological order. This more accurate knowledge of the structure of the crust of the globe is of the

(DIAGRAM No. 1.)—Order of Succession of the different Layers of Rocks which compose the Crust of the Earth.

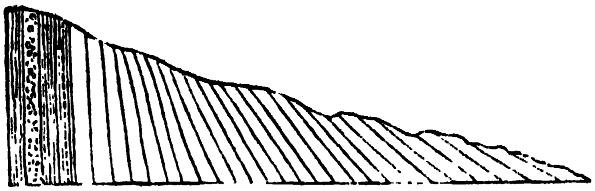


		Nature of the different kinds of Rocks and Soils	*Instances where they are found.*
	A.	Vegetable soil	
	B	Sand, clay, gravel, with bones of animals of same species as now exist	Mouth of Thames and other rivers.
	C	Deep beds of gravel, large loose blocks, sand—all containing bones of animals belonging to species now extinct	Surface of many parts of England, and especially the eastern and south-eastern parts.
Tertiary Strata	D.	Sand, clay, pebbles, beds of hard white sandstone—many sea shells, bones of extinct species of animals	Hampstead Heath, Bagshot Heath, coast of Suffolk and Norfolk—stone of which Windsor Castle is built.
	E.	Alternations of limestones, containing fresh-water shells, clays of different qualities, and limestones containing marine shells	Isle of Wight.
	F	Thick beds of clay, with many sea shells; beds of limestone—remains of extinct species of plants and fruits, land and amphibious animals	Many places round London, great part of Essex, and north-east of Kent, Isle of Sheppey.
			Woolwich, Cliffs at Harwich, Isle of Wight
Secondary Strata	G	Chalk with flints	Dover Cliffs, Brighton, Hertfordshire.
		Chalk without flints	Flamborough Head in Yorkshire
	H	*a* Chalk marl	Many parts of south coast, Kentish rag.
		b Green sand	Many parts of Kent and Sussex
		c Thick beds of clay	The Weald of Kent, Surrey, and Sussex.
		d Yellow sand, with beds of iron ore	Neighbourhood of Hastings and Isle of Purbeck.
		e Argillaceous sandstone	Flat pavement of London, very often.
	I	*a* Limestones of different qualities	Portland building stone.
		b Beds of clay	Kimmeridge, on coast of Dorsetshire.
		c Limestones with corals	Neighbourhood of Oxford
		d Beds of clay	Extensively in Lincolnshire fen clay.
		e Thick beds of limestone	Bath building stone
		f Thin beds of limestone and slaty clay	Whitby, Gloucester, Lyme Regis
	K.	Red marly sandstone, often containing beds of alabaster or plaster stone, and beds of rock salt	Great part of East Yorkshire, Nottinghamshire, Stafford, Warwick, Worcester, Cheshire, and neighbourhood of Carlisle
	L	Limestone containing much magnesia	Sunderland, Ferrybridge in Yorkshire, Mansfield, Notts
	M	COAL MEASURES, containing various seams of coal—beds of ironstone, clay, sandstone, and freestones of various qualities.	Newcastle, many parts of Yorkshire, Lancashire, Staffordshire, Somersetshire, vale in which Edinburgh and Glasgow are situated, South Wales
	N	Coarse sandstone and slaty clay	Millstones of Newcastle and Derbyshire.
	O	Thick beds of limestone, and slaty clay and sandstone, in many alternations	Deposits of the lead ore of Derbyshire, Yorkshire, Northumberland, Cumberland, High Peak of Derbyshire, mountains in Yorkshire, Mendip Hills, Somerset.
	P.	Dark red sandstone, with many beds of pebbles	Great part of Herefordshire, and south-east part of South Wales, Banks of the Wye, south of Scotland.
	Q	Thick beds of slate and sandstone, sometimes with impressions of shells, with thick beds of limestone	Cumberland and Westmoreland Mountains, great part of Wales, north of Devon, South Devon, and Cornwall, great part of south of Scotland.
Primary Strata.	R.	Slates and many hard rocks lying in alternating beds, in which no trace of animal remains has been found, of great thickness, and the lowest that have been reached	Chief part of the Highlands of Scotland.

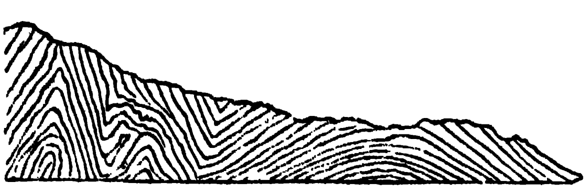
highest interest and importance, not only as a matter of speculative science, but as regards the practical advantages in common life that have been derived from it.

An examination of the phenomena exhibited by the internal structure of this series of superimposed rocks has established this further principle—that all the strata must have been deposited on pre-existing ground that was either horizontal, or nearly so, at the bottom of a fluid holding their materials either in suspension or in solution, or partly both. Now as we know of no fluid in which this could have taken place, except water, geologists have come to the conclusion that the chief part of all the strata, however elevated they may now be above the level of the sea, were gradually deposited at the bottom of the ocean, and the remainder of them at the bottom of inland seas or lakes. But if this be so, what mighty revolutions must have taken place to cause rocks formed in the depths of the ocean to occupy the summits of the highest mountains! By what known agency can so extraordinary a change of position have been effected? That the fact of elevation is indisputable, is proved by the shells imbedded in stratified rocks at the greatest elevations; and geologists, who have endeavoured to discover by what cause this change in the relative position of the rock and the sea has been brought about, by an attentive observation of the phenomena of earthquakes and volcanoes, and the resemblance between the products of the latter and certain parts of the earth's structure, which we have yet to notice, have arrived at a very probable solution of the problem.

Although the strata were originally deposited in an horizontal position, and are often found so in the greater proportion of cases, especially as regards the inferior members of the series represented in diagram No. 1, they are not uniformly so, but are inclined more or less; and they have been seen not only at every angle of inclination, but very often in a vertical position. When a vertical section of a mountain is exposed, as is often the case in valleys or the deep bed of a river, such an appearance as that represented in diagram No. 2 is not uncommon; and if the stratum *a* be composed of rounded blocks of stone surrounded by fine sand or clay, and if the stratum *b* contain a layer of shells lying parallel to the sides of the stratum, and if they be unbroken although of the most delicate texture, it is manifest that these strata could not have been deposited in their present vertical position, but upon a level ground. Sometimes they are not only disturbed from their horizontality, but are bent and contorted in the most extraordinary way, as if they had been acted upon by some powerful force while they were yet in a soft flexible state, as shown in the diagram No. 3,—an appearance very common in the slate rocks of the north coast of Devon.



[No. 2.]



[No. 3.]

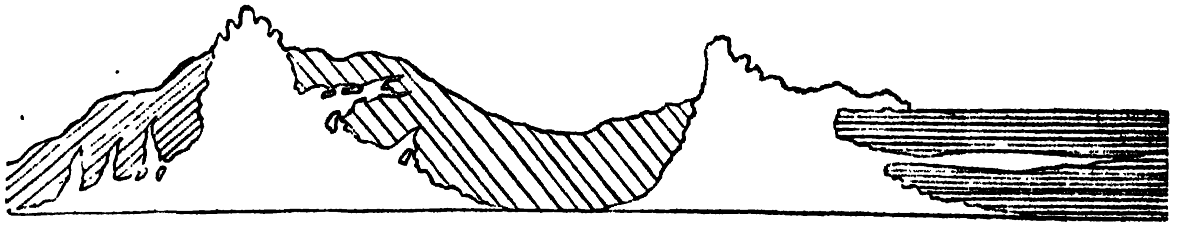
We have said that if we dig through the superficial covering of sand and clay we usually come upon stone disposed in layers; but there are many places where we should find a rock without any such arrangement, and which would continue of the same uniform texture, and without any parallel rents dividing it into beds, however deeply we might penetrate into it. Such *unstratified rocks*, although of limited extent in proportion to the *stratified rocks*, constitute a considerable portion of the crust of the earth, and in all parts of it they generally rise above the surface in huge unshapen masses, surrounded by the stratified rocks; and sometimes they occupy districts of great extent where none of the latter rocks can be seen. In mineral composition they are essentially different from the other class; never consisting of limestone, or sandstone, or clay, and never containing rounded pebbles, shells, or the remains of any other kind of organized matter. Their elementary constituent parts are simple mineral substances, which, although sometimes found in the stratified rocks, are always, in the rocks we now speak of, in different combinations; they are always in that particular state called crystalline; and when the parts are large enough to be distinguished they are seen to interlace each other, and by this arrangement they form a very hard, tough stone, very difficult to break into regular squared forms or to work with the chisel, and they are capable of receiving very often a high polish. The substances most familiar to us in common life, which belong to this class of rocks, are granite, whinstone, and basalt. The stones in the carriage-ways, and the curb-stones of the side-pavement, in the streets of London, are usually granite; Waterloo Bridge is built of it; and fine specimens of different varieties may be seen in the new buildings in Covent Garden market, in the King's Library at the British Museum, and among the larger Egyptian antiquities at the latter place. Granite is found in great abundance in the Grampians and other mountains of Scotland, in Devonshire in the mountainous district of Dartmoor, and in several parts of Cornwall. There are various kinds of *whinstone*, which is a term chiefly used in Scotland and the north of England, although the rock is met with in Wales and in the centre and western parts of England. The varieties, however, are usually produced by changes in the proportions and sizes of the same ingredients. It is usually of a dark-green colour, approaching to black, and often speckled with white. Some of the paving-stones of the carriage-ways in the streets of London are whinstone, brought from the neighbourhood of Edinburgh. It is often met with in the form of natural pillars, not round but angular, having sometimes three, sometimes six, and even eight sides, which are usually called *basaltic columns*: the Giant's Causeway in Ireland, and Fingal's Cave in the island of Staffa, on the west coast of Scotland, are beautiful examples of that peculiar structure.

We now proceed to show in what manner the two classes of rocks, the *Stratified* and the *Unstratified*, are associated. It is quite evident that the mode of formation of the two must have been totally different. The strata, by their parallel arrangement, the pebbles of pre-existing rocks, and remains of living bodies which they contain, demonstrate that they must have been formed under water by deposition *from* the surface downwards. The whole characters of the unstratified rocks prove that they must have come *to* the surface from the interior of the earth, *after* the deposition of the strata; that is, they have been ejected among the strata from below in a melted condition. This conclusion is derived from a careful examination and comparison of the unstratified rocks with the products of those burning mountains that have thrown out streams of melted stone or lava, both in past ages and in our own time. There is a great similarity, often an identity, of composition between the unstratified rocks and lava, and the closest analogy in the phenomena exhibited by the masses of both kinds, and in their relations to the stratified rocks with which they come in contact.

In every case the unstratified rocks lie under the stratified. This order is never reversed, except in cases which are deceptive appearances, and where they have been protruded between strata. It may indeed be said that this fact of inferiority of position is no proof of ejection from below, far less of posteriority of formation, for they might have been the foundation on which the strata are deposited; but their eruption from the interior, and that it took place after the strata were formed, are proved by other evidence, as we shall presently show.

A section of the crust of the earth, where the stratified and unstratified rocks have been found associated together, has often exhibited the appearance represented by the diagram No. 4.

A and B are mountains of granite or of whinstone, with strata of limestone lying upon it. From A branches connected with the principal mass penetrate into the superincumbent strata, and in the mountain B the granite overlies the limestone for a considerable way near the top, as if it had flowed over at that place, and lower down it has forced its way between two strata. Now as the penetrating substance must necessarily be of subsequent formation to the body that it penetrates, the granite must have been formed after the limestone, although the latter rests upon it. But if any doubt remained, it would be removed by the additional fact, that the granite veins in the mountain A contain angular fragments of limestone, identical with the strata above, and the fractured ends are seen to fit the places of the continuous stratum from which they have been broken off.



(A) [No. 4.] (B)

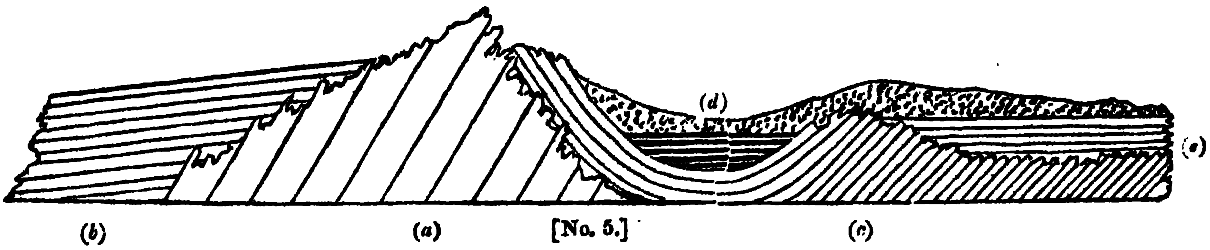
The ejection of the unstratified rocks from below is proved by the penetration of their veins into the superincumbent strata in an upward direction, often with the most slender ramifications to a great distance, and by the portions broken from the strata and enveloped in the substance of the vein. That they were ejected in a melted state is shown by the close resemblance in mineral composition of the unstratified rocks to the products of existing volcanoes, and by remarkable changes often observed to have taken place in the strata where they come in contact with granite and whinstone. Soft chalk is converted into a hard crystalline limestone like statuary marble; clay and sandstone are changed into a substance as hard and compact as flint, and coal is turned into *coke*; all of them changes which are analogous to what takes place when the substances are subjected to a strong artificial heat under great pressure. In the case of coal it is very remarkable; for when a bed of that substance, and a stratum of clay lying next it, come in contact with whinstone, the tar of the coal is often driven into the clay, and the coal loses all property of giving flame, although, at a distance from the whinstone, it is of a rich caking quality.

Although we have not any accurate means of determining the relative ages of the unstratified rocks, there are very decisive proofs that different members of the same class have been ejected at distinct periods, and that the same substances have been thrown up at different times far distant from each other. Granite, in veins, has never been seen to penetrate beyond the lower strata; but whinstone and the lavas of existing volcanoes protrude in masses, and send out veins through all the strata: veins of one sort of granite traverse masses of another kind, and whinstone and basalt veins are not only found crossing masses and other veins of similar rocks, but even of granite.

As the highly elevated, broken, and contorted positions of the strata are only explicable on the supposition of a powerful force acting upon them from below, and as they are seen so elevated and contorted in the neighbourhood of the unstratified rocks, it is a very probable inference that the mountain chains and other inequalities on the earth's surface have been occasioned by the horizontally deposited strata having been heaved up by the eruption of these rocks, although they may not always appear, but be only occasionally protruded to the surface through the rents produced by the eruptive force. The phenomena of earthquakes are connected with the same internal action, and these have often been accompanied by permanent elevations of entire portions of a country. This theory of the elevation of mountains by a force acting from the interior of the earth is supported by numerous events which have occurred repeatedly within the period of history down to our own time. In the middle of a gulf in the island of Santorino, in the Grecian Archipelago, an island rose from the sea 144 years before the Christian era; in 1427 it was raised in height and increased in dimensions; in 1573 another island arose in the same gulf, and in 1707 a third. These islands are composed of hard rock, and in that last formed there are beds of limestone and of other rocks containing shells. In the year 1822 Chili was visited by a violent earthquake which raised the whole line of coast for the distance of above one hundred miles to the height of three or four feet above its former level. Valparaiso is situated about the middle of the tract thus permanently elevated. A portion of Cutch, near the mouth of the Indus, underwent a similar revolution in the year 1819, when a district, nearly sixty miles in length by sixteen in breadth, was raised by an earthquake about ten feet above its original level. A volcanic eruption burst out in an adjoining part of India, at Bhooi, at the exact period when the shocks of this earthquake terminated. These cases must not be confounded with the production of new mountains, such as that of Jorullo in Mexico in the year 1759, which was raised to the height of 1600 feet above the table land of Malpais by eruptions of scoriæ and the outpouring of lava. The appearance of a new island off the coast of Sicily in the year 1831 is another phenomenon of the latter class. It rose from a part of the sea which was known by soundings a few years before to have been 600 feet deep, to the height of 107 feet above the water, and formed a circumference of nearly two-thirds of a mile. It was composed of loose cinders, and the part that rose above the level of the sea was washed away in the winter of the same year, but an extensive shoal remains.

It must not be supposed that these internal movements only took place after the whole series of strata, represented in diagram No. 1, had been deposited. There must have been long intervals between the termination of the deposition of one member of the series and the commencement of that of the stratum immediately above it; and internal movements, accompanied with disturbance of the already deposited strata, after they had come to consolidate into stone, appear to have taken place during the whole period in which the strata, from the lowest to the uppermost in the series, were deposited. This is proved by certain appearances exhibited by the strata in all parts of the globe that have yet been examined. The diagram No. 5 represents a case of very common occurrence: it must be borne in mind that it is an acknowledged principle in geology that all stratified rocks, in whatever position they are now found, must have been originally deposited horizontally.

There are here five different series of strata, *a*, *b*, *c*, *d*, *e*. Now, it is evident, that the series *a* must have been first disturbed; that, after its change of position, the series *b* and *c* were deposited, covering *the ends* of the strata of the series *a*. But *c* appears to have been acted upon by two forces at distant points, when it was thrown out of its horizontal position,



[No. 5.]

for the strata dip in opposite directions, forming a basin-shaped cavity, in which the series *d* was deposited. In like manner, after the disturbance of *c*, the series *e* was deposited, covering the ends of *c*; but the internal force which raised the beds *e* from the depths of the sea to the summit of the mountain where they are now seen, appears to have acted in such a direction as to have carried up the whole mass without disturbing the original horizontality of the structure. It is obvious that all the interior strata must have partaken of this last disturbance. There are, besides, numerous proofs that there have been not only frequent elevations of the strata, but also depressions; that the same strata which had been at one time raised above the surface of the sea had again sunk down, preserving an inclined position; that they had formed the ground upon which new sediment was deposited, and had again been raised up, carrying along with them the more recently formed strata.

It is not possible to give even a brief outline of the doctrines of geology without referring to the classification of animals. The divisions of the stratified rocks which geologists have established are founded mainly upon their distinctive characters as indicated by the remains of organized bodies contained in the different strata.

Animals are distributed into four great divisions,—*Vertebrated*, *Molluscous*, *Articulated*, and *Radiated*. The FIRST DIVISION includes all those animals which have a backbone; and because the smaller bones or joints of which it is composed are called by anatomists *vertebræ* (from a Latin word signifying *to turn*), the individuals that belong to this division are called *Vertebrated Animals*. This division is subdivided into four classes,—1. *Mammalia*, comprehending man, land quadrupeds, and the whale tribe; that is, all animals which give suck to their young, the term being derived from *mamma*, the Latin name for *breast*. 2. *Birds*, of all kinds. 3. All those animals called *Reptiles*, a term derived from the Latin verb *to creep*. Frogs, serpents, lizards, crocodiles, alligators, tortoises, and turtles, are reptiles, in the sense of the word as used by naturalists. 4. *Fishes*, of all kinds, except the whale tribe.

The SECOND DIVISION includes tribes of animals which have no bones, and because their bodies contain no hard parts, they are called *Molluscous Animals*, from a Latin word signifying *soft*. But, with a few exceptions, they have all a hard covering, to which they are either attached, or in which they can enclose themselves, and be preserved from injury. There are six classes in this division, founded on certain peculiarities of anatomical structure; but, for our present purpose, it is sufficient to say that the animals belonging to this division may be classified according to differences in the forms of their shells, for it is the hard parts of animals which furnish the records of their former existence. MOLLUSCOUS *Animals* are divisible into, 1. *Univalves*, that is, animals armed with a shell or valve forming the continuous piece, such as snails and whelks. 2. *Bivalves*, or those having two shells united by a hinge, such as oysters, cockles, &c. 3. *Multivalves*, or those having more than two shells, of which the common barnacle is an example.

The THIRD DIVISION is assigned to what are called *Articulated Animals*, which have a peculiar anatomical structure, called articulations, from *articulus*, the Latin for *a little joint*. It is subdivided into four classes,—1. *Annelides*, or those having a ringed structure, from *annulus*, the Latin for *ring*: leeches and earth-worms are examples. 2. *Crustacea*, or those which have their soft bodies and limbs protected by a hard coating or *crust*, which in common language we also call shell, such as lobsters, crabs, and prawns. 3. *Spiders*, which form a class by themselves. 4. *Insects*, such as flies, beetles, bees, and butterflies.

The FOURTH DIVISION comprehends a great variety of animals which are like an assemblage of rays diverging from a common point, and hence are called *Radiated Animals*, *radius* being the Latin for *ray*. It contains five classes, but as three of these are animals without hard parts, we may pass them over; of the remaining two, the one contains the *echini* or sea urchins; the other, the very numerous tribe called *zoophytes*, from two Greek words signifying animal and plant, because the animal is fixed to the ground and builds its strong habitation in the form of a shrub, or branch, or leafy plant. Corals and sponges belong to this class, and among all the different animal remains that are found in the strata, there is no class which bears any proportion to this last in point either of frequency of occurrence or in quantity.

The great divisions of animals, so far as the remains of species found in the strata are concerned, or as it is termed in a *fossil* state, are briefly these:—

I. Vertebrated Animals; *Classes*—Mammalia, Birds, Reptiles, Fishes.

II. Molluscous Animals; *Classes*—Univalve, Bivalve, Multivalve Shells.

III. Articulated Animals; *Classes*—Crustacea, Insects.

IV. Radiated Animals; *Classes*—Echini, Zoophytes.

Each class is farther divisible into several *families*; each family into several *genera*; each genus into several *species*, according as greater or minor points of resemblance and difference bring individuals near to each other. There are certain other great distinctions. Some animals eat animal food, the *Carnivorous*; others vegetable food, the *Graminivorous*; some can live both in the air and in water, the *Amphibious*. Among fishes, mollusca, and crustacea, some live in the sea, some in fresh water, some in both; and of those which inhabit fresh water some are peculiar to rivers, others to lakes. There are also land-shells, such as the common garden-snail. Certain species are peculiar to particular regions of the earth, being adapted to the different temperature and other peculiarities of different countries.

The number of distinguishable genera and species of fossil plants bears a small proportion to that of fossil animal remains, and the notice we shall be called upon to take of them in the present brief outline of geology is not such as to require us to enter into any previous explanation of the great divisions of the vegetable kingdom. We now proceed to point out the great divisions into which the various stratified rocks have been separated, referring to diagram No. 1.

The lowest members of the stratified rocks are distinguished by the predominance of hard slaty rocks, with a crystalline or compact texture, but chiefly by this circumstance, that they do not contain any fragments of *pre-existing* rocks, or the remains of organized bodies. On this account they have been called the PRIMARY STRATA. That we cannot now discover animal remains in these strata is, however, no proof that they had not previously existed; for we meet with rocks containing organic remains which are so altered by the action of heat in those parts where they have come into contact with a mass of granite or whinstone, that all traces of the organic remains are obliterated.

The primary strata may have contained the remains of animals, but being nearest to the action of volcanic heat the shells and corals may have been melted as it were into the substance of the crystalline rock. The absence of the fragments of pre-existing rocks is a less questionable ground of distinction. From whence the materials composing these primary strata were derived, is a question that it is not very likely any geological researches will enable us to solve: that they were in a state of minute division, were suspended in and gradually deposited from a fluid in a horizontal arrangement, and that they were subsequently elevated, broken, and contorted by some powerful force, prior to the deposition of the strata that lie over them, is beyond all doubt. There may also be beds of rock of great thickness, in which neither fragment nor organic remain has been found throughout a great extent of country, which nevertheless may not be primary; for if in any part of the same mass a single pebble or a single shell should be discovered, one such occurrence would be as conclusive as a thousand, that a prior state of things had existed. It follows, therefore, that until the whole of an extensive district of such rocks is carefully examined, we can never be sure that they may not be discovered to be of secondary origin; there is nothing in the *mineral* structure of any one stratified rock that entitles us absolutely to say that other rocks and living bodies could not have existed prior to its formation. But as there are large tracts of country occupied by strata, in which neither fragments of pre-existing rocks nor organic remains have yet been discovered, geologists are justified in designating them the *primary* strata; to call them *primitive*, as they used to be, and indeed still are called by some geologists, is to employ a term which expresses much more than we are entitled to assert.

The unstratified rock most usually associated with the primary strata is granite, of different varieties, which usually lies under them in great masses, and bursting through, forms lofty pinnacles, as in the Alps, and sometimes sends forth veins, which penetrate the superincumbent strata in all directions.

Immediately above the primary strata there commences another series, very like many of the rocks below them in respect of mineral composition, but containing the remains of shells, and some pebbles, and interstratified with thick beds of limestone, including shells and corals. These rocks also are penetrated by granite, and, in common with the primary strata, form the great deposit of the metallic ores. For want of a better term, they are usually called the *transition* strata, a name given by the older geologists, because they were supposed to form a step or transition from the primitive state of the globe to that condition when it began to be inhabited by living bodies; in strictness they form the lowest members of the next great division of the strata, which is distinguished by the name of *the Secondary Rocks.*

The secondary rocks comprehend many different beds of stone, extending from the primary strata to the chalk, which is the most recent member of the division. There are certain principal groups, which are divisible into subordinate beds, all distinguishable by marked peculiar characters. They occur in the following descending order:—

The Chalk Group.
The Oolite Group.
The Red Marl Group.
The Coal Group.
The Mountain Limestone Group.
The Old Red Sandstone Group.
The Grauwacke Group.

We shall briefly describe the leading characters of each group in an *ascending* order, beginning with the *Grauwacke*, a German local name for the principal rock among the lowest members of the secondary series. This group occurs extensively in the hilly country of the south of Scotland, in Westmoreland, Wales, and Devonshire. The *Old Red Sandstone Group* is characterized by containing a great number of beds composed of water-worn fragments, and sandstone layers of a fine grain, and by being usually of a deep red colour. It contains very few organic remains, but terrestrial plants and marine shells are sometimes found in it. It is the principal rock in Herefordshire, but is not of very great extent in other parts of England; it is estimated to be in England about 1500 feet thick. Above the old red sandstone comes the *Mountain Limestone Group.* The limestone is usually very compact or crystalline, yielding in many places excellent marbles for chimney-pieces, &c. It contains a great variety of organic remains, consisting of corals and many species of zoophytes and other radiated animals, some species of crustacea, a few remains of fish, and a great variety of marine shells. It forms considerable mountain chains in the north of England, in Derbyshire, and Somersetshire, and abounds in many places in valuable ores of lead; it is estimated to have a thickness of 900 feet. Above this limestone comes the *Coal Group*, which must have been produced under very different circumstances from the limestone which it covers, for it rarely contains any marine remains, but a vast profusion of plants. The united thickness of the Coal Group is, probably, not less than 1700 feet. The *Red Marl Group* consists of a number of beds of a red marly sandstone, often variegated by stripes and patches of grey, blue, and white, which occupy a great extent of country in England; there is an almost uninterrupted line of it from Hartlepool, in the county of Durham, to Exeter, and it covers the greater part of Nottinghamshire, Warwickshire, Staffordshire, Shropshire, Worcestershire, and Cheshire. In the two last counties it contains valuable mines of common salt, and copious brine-springs, and in other places great quantities of alabaster or plaster-stone. This group contains considerable beds of limestone, which are of a peculiar quality, owing to the large proportion of magnesia. The sandstones of the group contain very few organic remains, but the limestones abound in those of marine animals, among which are the bones of gigantic amphibious reptiles like crocodiles. The group is estimated at 2100 feet of thickness. The *Oolite Group* is so called from the prevalence in it of a kind of limestone composed of small round grains, like the eggs in the roe of a fish, whence oolite, from two Greek words signifying *egg* and *stone*. It contains about twelve alternations of subordinate beds, or rather systems of beds, consisting of limestones of different qualities and of clays, their united thickness being about 2600 feet, of which 1100 are formed by two beds of clay of 500 and 600 feet each. The whole group contains a vast abundance of animal remains, which are almost exclusively marine, consisting of numerous genera and species of the molluscous animals, crustacea, insects, echini, zoophytes, and skeletons of several species of gigantic reptiles analogous to the crocodile. The celebrated stones of Bath, Ketton, and Portland, and most of the best building-stones of the middle and south of England, are found in this group, which covers a great part of the country that lies between a line drawn from the mouth of the river Tees to Watchet, on the south coast of the Bristol Channel, and another line drawn from Lynn in Norfolk to Poole in Dorsetshire. The last or uppermost of the secondary rocks is the *Chalk Group*, which is separated from the Oolite Group by several beds of sands, clays, and sandstones, and including these, has been estimated to be 1900 feet thick. It covers a great extent of country, forming low hills and downs from Flamborough Head in Yorkshire to Weymouth, in a curvilinear sweep, the convexity directed to the S.E., and in many places E.S.E., and S. of that line. The whole group abounds in organic remains of the same *classes* as those found in the Oolite Group.

It thus appears that the secondary rocks consist of an extensive series of strata of limestones, sandstones, and clays, all of which contain either rounded fragments of pre-existing rocks or organic remains, or both; and each group, and all the subordinate members of the groups, are distinguishable by characters of great constancy and certainty, derived from the peculiar nature of the included fossils. They must all have been deposited in a horizontal position, but parts of them have undergone disturbance, being often thrown into a vertical position, and broken, twisted, and disturbed in the most extraordinary manner. Many of the disturbances of the lower groups took place prior to the deposition of the upper; for the latter are found lying in unconformable stratification on the ends of the former, as represented in diagram No. 5. They are traversed by veins or dykes, as they are often termed, of whinstone and other unstratified rocks, and there is usually great disturbance of the strata where these dykes occur. The dykes are often of great magnitude, and the rock is frequently thrust in huge wedge-shaped masses, of miles in superficial dimensions and some hundred feet thick, between the regular strata.

After the deposit of the secondary rocks a remarkable change took place, for all the strata that lie above the chalk have a totally different character from that rock and all below it. They have been classed in one great division, and have been designated the TERTIARY ROCKS. Thus the whole series of strata, of which the crust of the globe is composed, is divided into the *Primary*, the *Secondary*, and the *Tertiary*. It is evident that at the time when the secondary rocks were deposited, a great part of the present continent of Europe must have been considerably lower than the present level of the sea; that when the oldest or lowest members of the series were *forming*, the summits of the mountain ridges of primary rocks rose as islands of different magnitudes from the bosom of the deep; that at several successive periods these islands were more elevated, and attained consequently a greater superficial extent, the newer formed strata occupying the lower levels. In the progress of this series of changes of the surface of the globe, when there were evidently occasional depressions of the land as well as elevations, there appear to have been formed basin shaped cavities or troughs, not entirely cut off from communication with the sea, and vast æstuaries, in which the tertiary strata were deposited. While the secondary strata stretch continuously for hundreds of leagues, the tertiary are found only in detached insulated spots of comparatively limited extent. In this state of the earth's surface there must have been vast inland freshwater lakes, for we find regularly stratified deposits of great thickness full of organic remains, which exclusively belong to animals that lived in fresh water, and to terrestrial animals and plants. Like the secondary, the tertiary rocks consist of a great variety of strata of limestones, sandstones, clays, and sands, which have distinct characters, and have been united in several groups. In them we first discover the remains of land quadrupeds and birds, and bones of mammalia are most abundant in the beds nearest to the surface. Among all the various remains of animals and plants that are found in the secondary rocks from the chalk downwards, not one has been found which is identical with any living species. Although they have characters agreeing with those by which existing animals have been grouped together in the greater divisions of genera, families, and classes, the living individuals of the same divisions have forms of structure distinct from any found in a fossil state in the secondary rocks. But with the tertiary strata a new order of things commences, for in the lowest of these a small proportion, about three and a half per cent., of the fossil shells cannot be distinguished from species that now exist; as we approach the higher beds, the proportion always increases, and in the most recent stratum it amounts to nine-tenths of the whole. It is not more than twenty-one years since the great division of the tertiary rocks was established; prior to that time the peculiar characters which separate them from the secondary strata had been entirely overlooked. The discovery was made by Cuvier and his associate M. Brongniart, who found that the city of Paris was built in a hollow basin of chalk that had been subsequently partially filled by vast deposits of clays, limestones, sands, and sandstones, and that there were alternations of beds containing remains of fresh-water and terrestrial animals and plants, with others containing only the remains of marine animals. The publication of the work of the French naturalists led to a similar discovery in our own island, and in the valley of the Thames, so that the capitals of France and England are both built upon these strata. A series of tertiary strata was discovered by Mr. Webster in the Isle of Wight, having strong points of resemblance with that of the environs of Paris; and these, with some partial deposits on the coasts of Suffolk and Lancashire, constitute the whole of the tertiary rocks found in Great Britain. It was for some time supposed that these newer strata, which are not confined to the neighbourhood of Paris and London, extended like the secondary rocks over great tracts of country; and that there was such a degree of uniformity in their characters, that deposits widely distant from each other could be recognised as belonging to the same period in the chronological order of succession of the strata. Later observations, however, have shown that although possessing a general character of resemblance they have been so much modified in their formation by local circumstances, that *no two* tertiary deposits, even of the same æra, are alike. The discoveries of the last few years have led geologists to establish distinct subordinate groups, as in the case of the secondary rocks; and the upper stratum of the Paris basin, which was at one time considered the most recent of stratified rocks, has been found to be inferior in the order of succession to many others, some thousand feet thick. Organic remains are the great characters of distinction, and Mr. Lyell, in his 'Principles of Geology,' has proposed a division of the series founded upon the proportion of shells contained in the stratum which are identical with living species, that stratum being the most modern where the proportion is greatest.

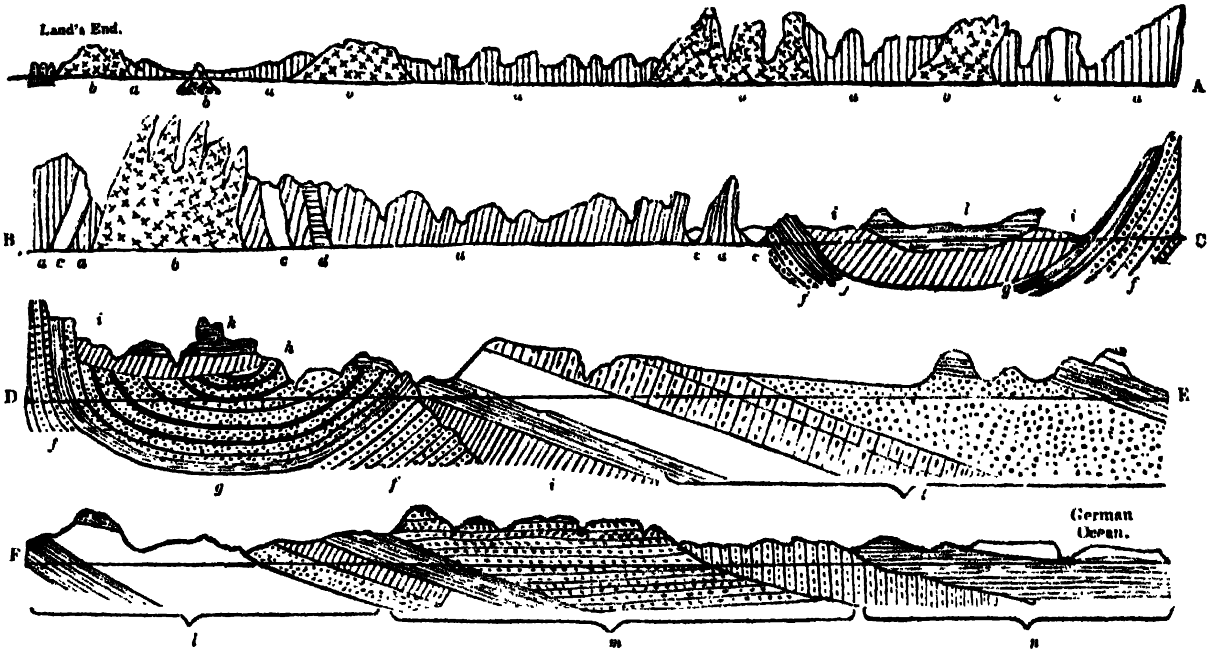
Having now completed a sketch of the different groups of strata, we shall exhibit a real section of a part of England, which will convey more intelligibly than any verbal description, a correct notion of the manner in which the strata now present themselves, when we penetrate the crust of the earth, or view them in those precipices on the sea-shore, or in mountainous districts, where natural sections are exposed.

In the annexed diagram the four parts belong to one continuous line, which has been broken to adapt it to the form of our page, but the index letters show where they unite:—A joins to B, C to D, and E to F. It is taken from the excellent work of Conybeare and Phillips on the Geology of England and Wales. This section is constructed by putting together an extensive series of exact observations and measurements at detached points along the line, made, however, with such care, that if the land were actually cut down, it is very unlikely that any of the great features would be found to be erroneous. Suppose then that a line be drawn from the Land's End to Bendley Hill, on the east coast, near Harwich, not absolutely straight, but passing over all the great features of the country that lie between the two points, at a short distance on each side of an imaginary central line; and that a vertical section were made, to a depth in some place, as far below the level of the sea as we have penetrated in our deepest mines—the precipice thus exposed would present such an arrangement of the strata as is exhibited in the diagram. It is necessary, however, to state that neither the horizontal distances nor the vertical elevations can be given in such a diagram in their true proportions. To do so, the paper must have been many yards long, and several feet in height. The order of position, and the succession of the strata as they lie over each other, are, however, truly given. The horizontal line represents the level of the sea.

Fig. A is that portion of the section which extends from the Land's End to the western slope of Dartmoor Forest, north of Tavistock,—crossing Mount's Bay to Marazion, Redruth, Truro, and north of Grampound and Lostwithiel. The principal rock is primary slate, *a*, which is in highly inclined strata, and is traversed by numerous metallic veins and great dykes of granite and other unstratified rocks: *b* and *c*, the granite, also form great mountain masses that rise in some instances to the height of 1368 feet above the sea, and in many places the great masses of granite send up shoots in numerous and frequently slender ramifications into the superincumbent slate.

Fig. B C contains that part of the section which lies between a point some miles north of Tavistock, and the summit of the

No. 6.—Section of the Stratified and Unstratified Rocks from the Land's End in Cornwall to the Coast of Suffolk.



Mendip Hills in Somersetshire, passing near Tiverton, Milverton, Nether Stowey, and Cheddar. On the left or western part we find a continuation of the slaty rocks, *a*, traversed by veins of whinstone, c, and then we come upon a mass of granite, *b*, forming the mountain group of Dartmoor Forest. This is flanked on the east by the same slate that occurs on the west, and it contains veins of whinstone, *c*, and subordinate beds of limestone, *d*. The slate continues without interruption for many miles, as far east as the Quantock Hills, near Nether Stowey, where it is seen for the last time on this line of section, being succeeded by the secondary rocks. A great part of the slate belongs to that lowest group of the secondary rocks called transition, in which the rock *Grauwacke* prevails, from which the group has been named. On each side of the Quantock Hills are deposits of rounded pebbles of grauwacke and limestone cemented together, *e e*. To the slate, *a*, succeeds the old red sandstone group, *f*, followed by the mountain limestone group, *g*. The strata of these rocks, soon after their deposition, must have been violently acted upon, for they are thrown up in such a manner as to form a trough or basin, and in this trough there are found the red marl group, *i*, and the lowest member of the oolite group, the lias limestone,' *l*. Here we miss a member of the series which should have come between the mountain limestone and the red marl, viz. the coal group. This is a blank of very frequent occurrence, but we shall find it in its right place on the other side of the Mendip Hills, which are cut through on the right of the figure, and are composed of old red sandstone in the centre, covered on their sides by mountain limestone.

Fig. D E represents that part of the section which lies between the Mendip Hills and Shotover Hill near Oxford. On the west we see the old red sandstone group in the centre of the Mendip ridge, which is succeeded by a section of the great coal-field of Somersetshire. Here, as on the west side of the Mendip Hills, the old red sandstone and mountain limestone groups have been thrown up in opposite directions, and have formed a trough. As the coal measures, *h*, partake of the curvature, the disturbance must have taken place subsequently to their deposition, but it must have been prior to that of the next group, for the red marl beds, *i*, are deposited in unconformable stratification upon the turned-up ends of the strata of the coal group. The red marl group is covered by portions of the lowest bed of the oolite group, *k*, which indicates some powerful action at the surface, that has caused the removal of the connecting portions of the oolite beds, leaving insulated masses on the summits of high hills. This last occurrence of a mass of a horizontal stratum capping a lofty hill is very frequent; and the phenomena may have been caused either by the action of water which has washed away the rock, or by a portion of rock being carried up to a great elevation, which had been part of a continuous stratum at a lower level. This deposit of the coal group is succeeded as we proceed eastward by the red marl group, resting in unconformable stratification on the ends of the old red sandstone, two intermediate groups being thus wanting; and this is followed for many miles by successive members of the oolite group, *l*, inclined at a low angle.

Fig. F. The oolite group continues from Shotover Hill to the neighbourhood of Aylesbury, where it is succeeded by the sands, clays, and marls, which form the inferior members of the chalk group, *m*. The chalk, containing flints, emerges near Tring, forming the lofty hill of Ivinghoe, which is 904 feet above the level of the sea, and it continues uninterruptedly to Dunmow in Essex. Here the secondary rocks terminate, and the chalk is covered by very thick beds of clay, *n*, which form the lowest members of the tertiary strata, and continuing on to the sea, appear in the cliffs of the coasts of Essex and Suffolk.

In the greater part of the country through which the above section has been carried, no unstratified rocks rise to the surface after we leave the district of Dartmoor Forest. That they exist below the strata, and that their protrusion *towards* the surface has been the cause of the disturbance of the sedimentary deposits exhibited by this section, is at least *extremely probable*, for we find them coming to the surface from under several of these strata in other parts of Great Britain.

The Diagram No. 1 contains examples of stratified rocks from our own territory, and shows that this island is almost an epitome of the mineral structure of the crust of the globe. There are some rocks of great extent found on the continent, which have not yet been observed in Great Britain, but they are only subordinate members of one of the groups we have mentioned. With the exception of these, of some of the superior members of the tertiary series, and of the products of active volcanoes, Great Britain and Ireland afford an ample field for studying almost everything that is most important in geology.

Organic Remains.

The word *Fossil*, which means anything dug out of the earth, used to be applied to all minerals; but modern geologists have conveniently restricted its application to organized bodies contained in the loose or solid beds composing the crust of the globe, and which are, for the most part, converted into stone. *Fossils* are now always understood to be petrified remains of animals or plants, and we say *fossil* shells, *fossil* bones, *fossil* trees, &c. We are enabled to make out, by the aid of those bodies, that a bed of limestone on the coast of Dorsetshire, another on the coast of Yorkshire, a third in the western islands of Scotland, and a fourth in the interior of Germany, although differing perhaps in appearance, as far as the mere limestone is concerned, belong to the same age or period of formation in the chronological order of the strata. (See Diagram No. 1.)

Fossils reveal to us the wonderful fact, that God has created different species of animals and plants at successive and widely distant intervals of time, and that many of those that existed in the earlier ages of our globe became extinct before the creation of others; that, prior to man being called into existence, innumerable species of living beings had covered the surface of the earth for a series of ages to which we are unable to fix any limits. We further learn, that a very large proportion of those creatures, of the later periods, had become extinct, and had been replaced by the animals which now exist, before the creation of our first parents. When that great event took place, the crust of the earth had already undergone numerous changes. We are also taught by the study of fossils that, prior to the creation of man, there existed a totally different condition of our planet, in so far as regards the distribution of land and water, from that which now exists; that where there are now vast continents there must have been deep seas, and that extensive tracts of land must have occupied those parts of the globe which are now covered by the ocean. In many parts of the interior of our continents there must have been vast lakes of fresh water, which were drained by subsequent changes in the form of the land which bounded them, and were replaced by wide valleys, long antecedent to the existence of man. Thus, in the very heart of France, in a district along the banks of the river Allier, of which the town of Vichy may be taken as the centre, vast strata, full of fresh-water shells, prove that there must have existed, for many ages, a lake nearly a hundred miles long and twenty miles in average breadth. It is also concluded from the nature of organic remains, that changes of CLIMATE have taken place; and that a heat equal to that now existing in the equatorial regions must have formerly prevailed in latitudes far north of our island.

The organized bodies which are found in a fossil state belong to animals and plants that exist on the land, or in lakes and rivers, and to those also which are inhabitants of the sea. The last are by far the most numerous. Of marine productions, shells and corals constitute the chief part, for, being almost wholly composed of mineral substance, they are not liable to decay. In all cases of petrified remains of animals it is the hard parts only that we find; the whole of the flesh and softer parts have disappeared, so that, with the exception of some instances of fishes and amphibious animals, no trace of the external form of the living animal can be discovered; and where bones are found, it is very rarely that an entire skeleton is met with. There are fossil remains of

Among bodies belonging to the Sea.	Shells.
	Corals and sponges.
	Radiated animals, such as Star Fish.
	Reptiles, resembling Crocodiles.
	Fishes.
	Cetacea, or the Whale tribe.
	Crustacea, such as Lobsters and Crabs.
	Plants.
Among bodies belonging to the Land.	Fresh-water shells, found in lakes and rivers.
	Land shells, such as the Garden Snail.
	Quadrupeds.
	Reptiles.
	Birds.
	Insects.
	Stems of trees and wood.
	Smaller plants and leaves.

These several bodies are not found indiscriminately throughout the whole series of the secondary and tertiary strata (Diagram No. 1); some are peculiar to the lowest beds, some to the intermediate, and some to the superior. But *all*, of whatever description they may be, *which occur in the secondary strata*, belong to species now wholly extinct. By far the greatest proportion of those found in the tertiary strata belong likewise to extinct species. It is only in the uppermost beds that there is any very considerable number of individuals which are identical with animals now in existence, and there they preponderate over the others.

The bones of man are not more liable to decay than those of other animals; but in no part of the earth to which the researches of geologists have extended, has there been found a single fragment of bone, belonging to the human species, incased in stone, or in any of those accumulations of gravel and loose materials which form the upper part of the series of the strata. Human bones have been occasionally met with in stones formed by petrifying processes now going on, and in caves, associated with the bones of other animals; but these deposits possess characters which prove them to have been of recent origin, as compared with even the most modern of the tertiary strata.

The geologist may be considered as the historian of the earth previous to that period when the history of man begins. Although it belongs to the geologist to study the events that have occurred within his province during the more modern ages of the world, as well as those which are in progress in our own day, his especial object is to unfold the history of those revolutions by which the crust of the globe acquired its present form and structure. The earth, with its stores of organic remains, which now rises above the surface of the sea, may be compared to a vast collection of authentic records, which will reveal to man, as soon as he is capable of rightly interpreting them, an unbroken series of events, commencing from a period indefinitely remote, and which in all probability succeeded each other after intervals of vast duration. The mummies of Egypt do not more certainly record the existence of a civilized people in remote ages on the banks of the Nile, than do the shells entombed in solid stone at the summit of the Alps and Pyrenees attest that there was a time when the rocks of those mountains occupied the bottom of a sea, whose waters were peopled by numerous species of animals, of which there does not now exist one single descendant.

In the lowest beds of the series of the secondary strata the organic remains consist chiefly of corals and shells. As we ascend in the series, the proportion of animals of more complicated forms increases, and the bones of land quadrupeds are almost entirely confined to the more recent members of the tertiary strata.

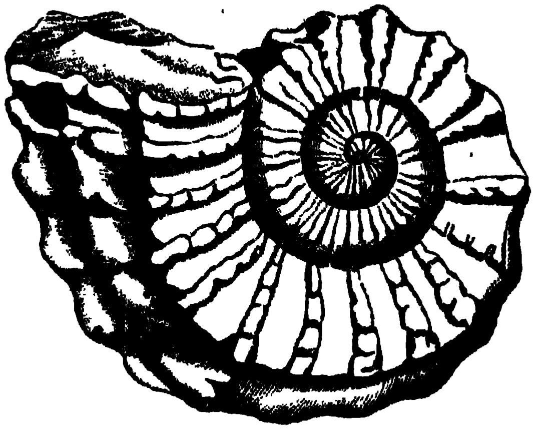
The animalcules called *Infusoria* are living creatures found in stagnant waters, so minute as to be invisible to the naked eye—a collection of many thousand individuals occupying no greater space than the tenth part of an inch. For a long time after they were discovered by means of the microscope, they were thought to be little more than specks of animal matter endowed with locomotive powers, but the ingenious researches of Ehrenberg, who employed a very powerful instrument, have shown that these animalcules are provided with limbs and organs, and with a system of vessels and nerves; even figures of their teeth accompany his curious memoir. Thus, the lowest member in the supposed graduated scale of animal structure, in place of being a simple body, is probably a very complicated piece of mechanism. But corals and shells, though of most frequent occurrence, are not the only animal remains found in the lower strata, for recent observations have discovered in these rocks the vertebræ or joints of the backbone of fishes, as well as other parts belonging to them, and even impressions of entire fish have been met with.

Throughout all the strata, from the lowest member of the secondary series up to the last layer lying immediately beneath that which, in geological language, is termed a formation of the recent period, we find in northern latitudes numerous re mains of animals and plants belonging to genera which are now only known to exist in tropical climates. In the most northern part of Asiatic Siberia, at the mouth of the river Lena, which flows into the Arctic Ocean, in the 70th degree of latitude, there are vast accumulations of the bones of an extinct species of elephant, and in such a state of preservation that a great part of the ivory used in St. Petersburg is brought from thence. Indeed the quantity is so great that a Russian naturalist has stated it as his belief that the number of elephants now living on the globe must be greatly inferior to those which occur in a fossil state in those parts of Siberia. The entire carcass of one of those animals was found enclosed in a mass of ice, and yet, from the preservative quality of the ice, the flesh was in such a state that when it was disentombed by the accidental breaking up of the mass, it was devoured by the wolves and other wild animals. As to plants, specimens of rock have been brought from Melville Island, the remote northern land discovered in our late polar expeditions, some of which contain, embedded in the stone, portions of plants belonging to an order now known only to exist in the warmest parts of the equatorial regions.

To endeavour to account for this apparent change in the temperature of the northern latitudes, is one of the most difficult problems in the physical history of the globe. An ingenious theory has been lately proposed by Mr. Lyell, in the first volume of his 'Principles of Geology,' which assumes no condition of the globe inconsistent with the established laws of nature of which we have had experience. His theory is, that all the indications of the former prevalence of warmer climates may be accounted for by a different distribution of land and water; and we know from geological appearances, that a very different proportion of superficial land and water must formerly have existed in the northern hemisphere from that which we now find. It is not very easy to state the grounds of this theory in an abridged form; but the following explanation will perhaps convey an intelligible idea of it. Wherever there is a great expanse of water, like the sea, there is always a more uniform temperature in the adjoining countries throughout the year. On the contrary, extensive tracts of land are liable to considerable vicissitudes; and hence the difference of an insular and continental climate in the same parallel of latitude. Moscow and Edinburgh are very nearly in the same latitude, but while at the latter place there is neither extreme cold nor excessive heat, at Moscow the cold in winter is sometimes so intense as to freeze quicksilver, and there are often days in summer as hot as at Naples. In like manner, the higher you ascend, the air becomes colder; and thus in lofty mountains, such as Ætna, the sugar-cane grows at the foot, and the lichen, or moss of Iceland, at the summit. In the lofty mountains of South America there are regions of eternal snow under the equator. If we suppose, therefore, extensive continents, lofty mountains, and numerous islands to have existed in southern latitudes where there is now a wide expanse of sea, and an ocean to have occupied the place of northern Europe and Asia, it must be admitted that at least very different climates would exist in the northern hemisphere from what now prevail.

All the strata most abundant in *animal* remains are either limestones or contain a large proportion of lime. Many thick beds of clay also abound in them; but in that case limestone in some form is generally associated with the clay. It is a probable inference, that animals have mainly contributed to the formation of many limestone strata, in the same way as we see them now at work forming vast limestone rocks in the coral reefs of the Pacific Ocean. A reef of this sort extends for three hundred and fifty miles along the east coast of New Holland, and between that country and New Guinea the coral formations have been found to extend, with very short intervals, through a distance of seven hundred miles. Of all the forms of organized bodies which are found in a fossil state, from the lowest stratum in which they occur to those of most modern date, shells and corals constitute by far the greatest proportion. All the strata must have been deposited in seas or lakes, and it is therefore natural that animals living in water should be most abundant: besides, as shells and corals are not liable to decay, they remain, while the soft boneless animals which inhabit them perish entirely; and fish-bones, being more perishable than shells, are comparatively rare.

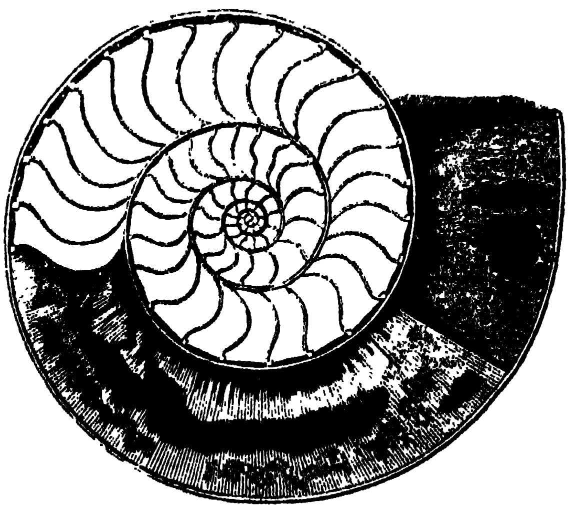
Shells are found in all formations; but to a person who has made conchology a special study, there are many striking differences between those found in a fossil state and such as now exist in our seas, lakes, and rivers; and yet these differences present nothing striking to a general observer. There is, however, one which is very different from anything now living, and of common occurrence in a fossil state; it is called the Ammonite, formerly the *Cornu Ammonis*, that is, the horn of Ammon, from its resemblance to those horns which are affixed to the head of Jupiter Ammon in ancient works of art.



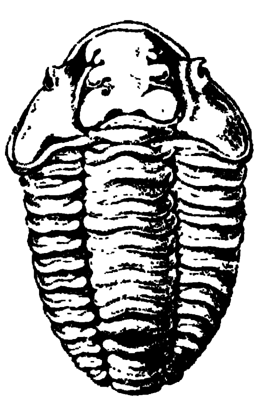
(Fig. A.)

Fig. A is a representation of the exterior of one of the numerous species of which this genus is composed. These shells are found of all sizes, from a few lines to nearly four feet in diameter, and above three hundred different species are said to have been observed. When the shell is slit, it exhibits the appearance represented by the fig. B, for it is usually filled with stony matter, and often with transparent sparry crystals. It consists of a series of small chambers or cells, arranged in a form like a coiled snake, the different cells having apparently a communication with each other by a small tube or canal which runs near the outward margin of the coil. It is supposed that the animal first inhabited the innermost cell, that as it grew it formed larger cells for itself, keeping up the communication with the former one. It is conceived, too, that the animal had the power of filling or emptying these cells, so as to regulate its motion in the water, filling them when it wanted to occupy the depths of the sea, and emptying them when it wished to make itself lighter in order to rise to the surface. The living shell to which it has the nearest resemblance is the nautilus. This remarkable fossil is found in all the stratified rocks from the Mountain Limestone to the uppermost of the secondary strata. It thus continued to be reproduced through many succeeding ages, long after other genera, its first contemporaries, had become extinct; but it also ceased to exist, at the period when the tertiary strata began to be formed. The shell is so extremely thin, and so brittle, that it is rare to find perfect specimens, unless when preserved by being incased in hard stone.

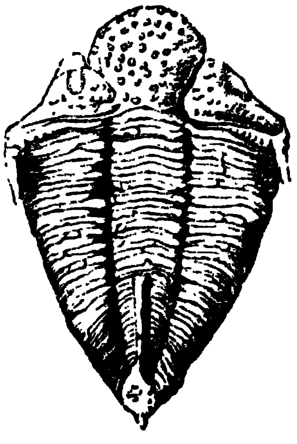
There are some *genera* of shells in the lowest strata containing animal remains, which are also found in the present seas; but there is not a single *species* of any of the genera of shells found in the whole range of the *secondary* strata that is identical with a living species: all are extinct. In the oldest of the tertiary beds some shells are found identical with living species; and the proportion of these increases the more recent the deposit, until at last they greatly predominate over the extinct species in the more recent deposits. It is thus evident that there



(Fig. B.)



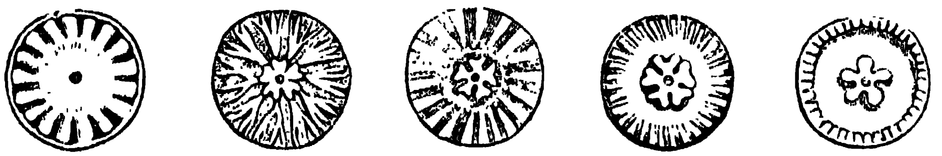
(Fig. C.)

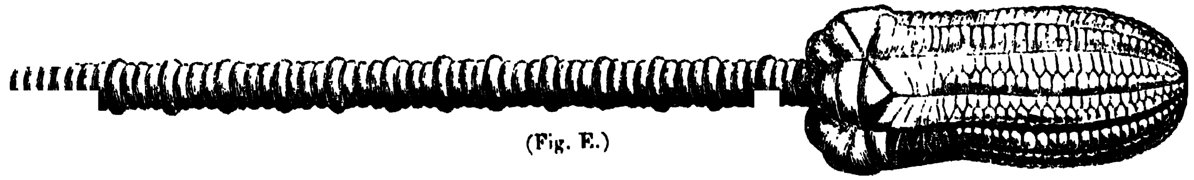


(Fig. D.)

has been an extinction of some genera and species, and a creation of others, in a constant state of progression. In the case of fossil shells, as well as other organic remains, a great proportion bear a strong analogy to such as are now only known to inhabit tropical seas.

Figures C and D are specimens of two species of a crustaceous marine animal, which is wholly extinct. It has not been found in any rock above the Mountain Limestone, and that rock is so low in the series of the strata that the earth must have undergone many successive revolutions, each separated by an interval of vast duration, since the time when these animals were inhabitants of the sea. There are several species of the animal, which has been called Trilobite, from the body being composed of three longitudinal divisions or lobes. It was first brought under the notice of naturalists by the name of the Dudley Fossil, being found very frequently in the limestone near that town; but it is also found in other parts of England, in Germany, and Sweden, and specimens have been brought from North America. It is met with in some spots in immense quantities. In some parts of Wales the slate is so full of fragments of the animal that millions must have swarmed on the spot.





(Fig. E.)

Another fossil animal which is very peculiar in its form is that represented in fig. E, called the Lily Encrinite. It resembles that flower upon its stalk, and still more so when the several parts of which the flower-like extremity is composed are separated and spread out; specimens of it in this state are not unfrequently met with. The animal lived in the base of the flower, and the separable parts stretched out like arms to seize its prey. It was fixed to the ground by the other extremity of the stalk. That stalk is not a single piece, but consists of a number of distinct joints like those of the backbone, or like a necklace of beads, on which account the fossil has been sometimes called *Encrinites Moniliformis*, or Necklace-form Encrinite. The stalk is perforated through its whole length, and the joints when separated have figured surfaces, such as are represented above in the circular bodies *a, b, c, d, e*, the figure being different at different parts of the stalk. This *family* of radiated animals, which consists of many extinct genera and species, has not wholly disappeared; living representatives of it are still found in the seas of the West Indies, and there is a very perfect specimen in the Museum of the Geological Society; but the lily encrinite, that branch of the family, is not only wholly extinct, but has been so ever since the period when the New Red Sandstone was deposited. It appears to have had comparatively a short existence, for it has only been found in a limestone which occurs associated with the New Red Sandstone. It is met with abundantly in that particular limestone which occupies a great extent of country in Germany, but the fossil has never been seen in England, and that kind of limestone is not found in our island.

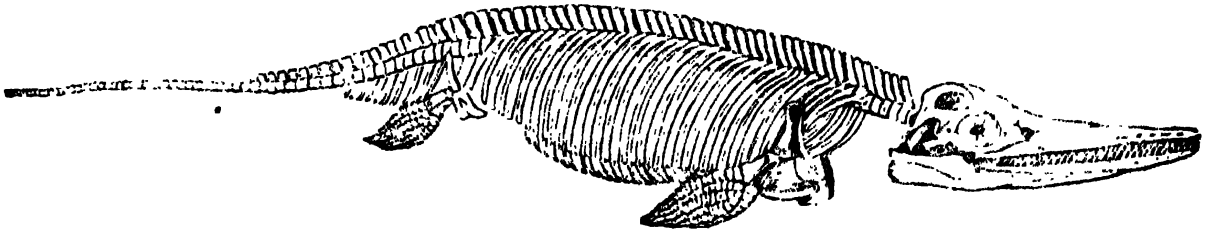
The remains of fishes occur in almost every stratum, from the Old Red Sandstone up to the most recent deposits of freshwater lakes. One of the most celebrated places for fossil fish is a hill near Verona in Italy, called Monte Bolca; immense quantities have been found there in a very perfect state of preservation, as far as the form is concerned, but, as in most other cases, quite flattened and thin, so that they are like a painting or engraving of a fish. These impressions are of rare occurrence in comparison with the quantity of separate bones that are found in most strata: teeth of the shark are frequently met with, and sometimes of a size which must have belonged to individuals of giant dimensions, such as are not now seen in any seas.

In the extensive series of sandstones, limestones, and clays of the secondary rocks, from the coal-measures up to and including the chalk (see diagram G to M), the fossil remains of animals consist of a vast variety of shells, corals, sponges, and other marine productions of a similar description,—of a few kinds of crustacea, a few kinds of fish, some great reptiles, and a few insects. No remains of land-quadrupeds, or of the marine mammalia, or of birds, have yet been met with in chalk, or any stratum under the chalk, except one instance of the jaw of a small quadruped found by Dr. Buckland in a quarry near Oxford. Among the numerous animal remains that occur in the secondary strata, there is not a single species which has not been for many ages extinct, and even whole genera have ceased to exist.

The extinction of species is so important a fact in all that relates to the geological history of the earth, that we will, even at the risk of some repetition, endeavour by a little explanation to make clear to the general reader what is meant by the term. Each particular kind or *genus* of animal usually consists of several individuals which, while they possess a common character or class of characters, have particular forms which distinguish them from each other, and such individuals constitute the *species* of a *genus*. The characters by which geologists distinguish the relative ages of strata, in so far as animal remains are concerned, depend, not upon the *genus*, but on the *species;* for while species have become extinct, one after the other in succession, the *genera* to which they belong have continued to exist from the period of the deposition of the oldest of the secondary strata to the present time. For example, the *genus* ostrea, or oyster, is found in the limestones which lie beneath the coal-measures, but not one of the many *species* of oyster which are met with in almost all the strata, from that limestone up to the chalk, is identical with any species of oyster inhabiting our present seas.

Some of the marine reptiles are extraordinary both in point of form and size. Of these monsters of the ancient seas, nine different genera have already been found entombed in the secondary strata, and of some of the genera there are several species. They have been called *saurians* from their resemblance to the lizard tribe, *saura* being the Greek name for a lizard. A common green lizard is a tolerably good miniature representation of the general form of these, but a crocodile or alligator gives a still better idea of them. It must be remembered, however, that in speaking of the fossil remains of those animals, we mean only their skeletons or bones. It very seldom happens that even the entire skeleton of any large animal is found, particularly in the strata that were deposited at the bottom of a sea, and for this reason: the bones in the living body are kept together by a cartilaginous substance or gristle, which after death putrefies, and then the several members fall asunder. Very often, too, we find only detached bones; and this also may be accounted for. When putrefaction commences in a dead animal, a considerable quantity of gas is generated, which swells up the body, and, if that be in water, makes it so much lighter that it floats. In process of time the skin bursts, and the gradually loosened bones are scattered far apart. Such detached bones are frequently all by which we are enabled to decide upon the nature of the animal, and they may seem only scanty materials for the purpose. But Cuvier has shown that there reigns such a harmony throughout all the parts of which the skeleton is composed, so nice an adaptation of the forms to the wants and habits of the animal, and such a degree of mutual subordination between one part and another in portions of the structure apparently quite unconnected, that we are enabled by the inspection of a single bone to say with certainty that it must have belonged to a particular kind of animal, and could not have formed a part of the skeleton of any other. Thus, if we present to a skilful comparative anatomist a small bone of the foot of a quadruped, he will not only pronounce with certainty as to the size of the animal to which it belonged, but will say what sort of teeth it must have had,—whether it had horns, and whether it fed upon the flesh of other animals or on vegetable substances. If many detached bones belonging to the same kind of animal be collected, the skill of the comparative anatomist enables him to put them together in their true places, and thus a complete skeleton has been constructed of separate fossil bones which had belonged to several individuals of the same species. The discovery in one of our stone-quarries of a few mutilated fragments of bone imbedded in the solid rock, reveals to us the kind of animals that must have inhabited this region of the earth at the remote period when the rock was in the act of being deposited at the bottom of the sea, and tells us also that the climate was not that of the temperate zone, but of the tropics.

The most remarkable of the fossil saurians which are found in the secondary strata are those which have been called ichthyosaurus, plesiosaurus, megalosaurus, and iguanodon. The first of these is so called from the characters of the animal partaking at the same time of the nature of a fish and of the lizard tribe; *ichthys* and *saura* being two Greek words signifying *fish* and *lizard*. Its head resembles that of a crocodile, only it is much larger and sharper, its snout ending in a point, almost as acute as the beak of a bird: it has a most formidable supply of sharp conical teeth, 60 in each jaw. Its head was of an enormous size, for jaws measuring eight feet in length have been found; and it was furnished with a pair of eyes of still more extraordinary proportion, for the oval hollows for that organ in a skull belonging to a gentleman at Bristol measure 11½ inches in their largest diameter. The head was about a fourth of the whole length of the animal, and was joined to the body by a very short neck: the back-bone was composed of joints or *vertebræ* different from those of land animals, and similar to those of fishes: it had four paddles, like those of a turtle, in the lower part of its body, and by means of these and its very powerful tail it must have darted very swiftly through the water. It was a most singular combination of forms, for it had the snout of a dolphin, the teeth of a crocodile, the head and breast-bone of a lizard, extremities like the marine mammalia, and vertebræ like a fish. We can, however, form no idea of the appearance of the animal when alive, except such as is conveyed to us by the sight of the skeleton. The following representation of the complete skeleton of the ichthyosaurus, as restored in the way we have alluded to, is given by the Rev. W. Conybeare, to whom we are indebted for the most complete account of those fossil saurians.—('Transactions of the Geological Society,' vol. i. Second Series.)

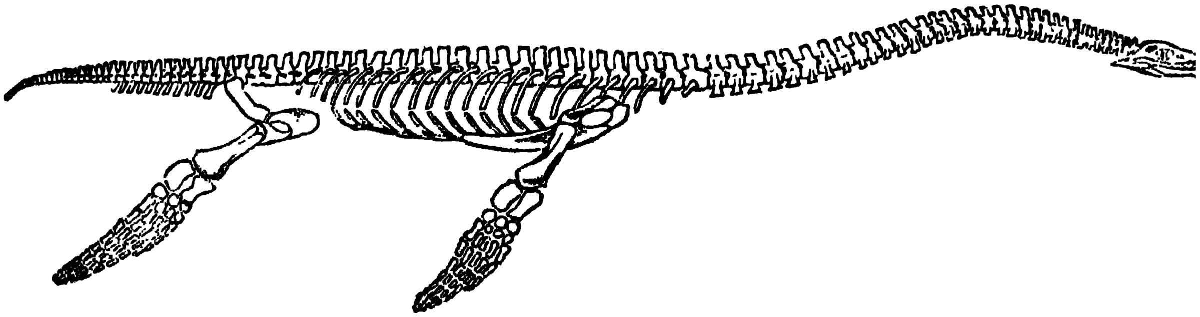


[Skeleton of Ichthyosaurus Communis, restored by Mr. Conybeare.]

Remains of the ichthyosaurus have been found in all the secondary strata, between the red sandstone and the chalk (G to K,—diagram) in many parts of England; but they are most frequently met with in the lias limestone, (I, f,) and in greatest abundance at Lyme Regis, in Dorsetshire. They have also been found in several places on the continent, especially in Wurtemberg.

The *plesiosaurus* is so called from its near approach to the lizard tribe, *plesion* being Greek for *near*. It has a considerable resemblance in the body to the ichthyosaurus, but the head is much smaller, and is altogether of a different structure: its most remarkable character is the great length of its neck. In man, all quadrupeds and other mammalia, there are seven joints or vertebræ in the neck. Reptiles have from three to eight joints, and birds many more; but the plesiosaurus had 41. A plesiosaurus was found in 1823 at Lyme Regis imbedded in the shale, or slaty clay, which lies between the beds of lias limestone, and the skeleton was crushed almost flat by the vast weight of stone above it.

Mr. Conybeare, to whom we are indebted for the first description and name of the plesiosaurus, has given us the following representation of this extraordinary long-necked reptile in a restored state.



[Skeleton of the Plesiosaurus Dolichodeirus, restored by Mr. Conybeare.]

Some fragments of the bones of a saurian of gigantic size were discovered by Dr. Buckland a few years ago in the quarry of Stonesfield, near Woodstock, in Oxfordshire. According to the opinion of Cuvier, who examined them, they must have belonged to an individual of the lizard tribe, measuring forty feet in length, and having a bulk equal to that of an elephant seven feet high. This fossil animal was distinguished by Dr. Buckland with the name of Megalosaurus, on account of its great size.

The other great fossil saurian we have mentioned is the iguanodon which was found in Sussex.

Although the forms of leaves and other parts of plants impressed upon stones, and petrified wood and vegetable substances found in a fossil state, had long ago attracted the attention of naturalists, it is only very lately that the subject of "Fossil Botany" has been accurately investigated. M. Adolphe Brongniart in France, and, more recently, Professor Lindley in this country, have directed their special attention to this subject. M. Brongniart, by examination of the works of earlier writers, by an inspection of specimens in the museums of most countries in Europe, and by extensive communications with botanists and geologists, has arrived at some very important general results, which he has developed in a work entitled 'Histoire des Végétaux Fossiles;' and in that and in his 'Prodrome d'une Histoire des Végétaux Fossiles,' has sketched such a system of classification as will greatly facilitate the future prosecution of fossil botany. In our language, a valuable work entitled 'The Fossil Flora of Great Britain' has been begun by Professor Lindley and Mr. William Hutton of Newcastle-on-Tyne.

The plants, of which fossil remains have been met with, belong to every one of the six great classes into which the vegetable kingdom is divided; there is no great *class* of vegetable structure which did not exist prior to the deposition of the tertiary strata. The classes are founded mainly upon the particular provision for the reproduction of the plant:—1. *Agamæ* are those plants which have no special organs of fructification,—all the sea-weed tribe belong to this class. 2. *Cellular cryptogamæ*, or those with a concealed seed apparatus and composed of cellular tissue without vessels, such as the moss tribe. 3. *Vascular cryptogamæ*, those having a concealed seed apparatus like the former, but with vessels of a vascular structure: the very numerous tribe of ferns belong to this class. All the plants of these three first classes are flowerless. 4. *Gymnospermous phanerogamæ*, those with exposed organs of reproduction or flowers, but with naked seeds, such as the fir-tree tribe. 5. *Monocotyledonous phanerogamæ*, those with flowers, but having a seed composed of one lobe. Wheat, and all grasses, and the palm-tree, belong to this class. 6. *Dicotyledonous phanerogamæ*, those with flowers and two cotyledons, or seed lobes, which is by far the most numerous class, the greater number of trees and plants we see around us in this country belonging to it: the common bean is a good example of the double cotyledon. Some of the *families* or *orders* of each class are met with in the fossil state: there are different genera of each order, some corresponding to living genera, others that are now extinct; and in most of the genera several species have been discovered, but almost all of these are now extinct. No trace of grasses of any sort has yet been found in the fossil state, but when one considers the vast number of extinct land animals, belonging to the graminivorous tribes, of which the bones are scattered over so many countries, it is hardly possible to conceive that grasses did not exist in former states of our globe. Vegetable remains are generally most abundant in the older strata. The plants of most simple structure are met with only in the superior strata, while in the older strata, such as the coal measures, and where vegetable remains are most in abundance, we have not only palms, and other plants of the same tribe, the most highly developed that we know in the monocotyledonous class of the existing æra, but other plants that are met with in great numbers in the same strata, called sigillariæ and stigmariæ, belonging in all probability to the dicotyledonous or most highly organized class of plants.

The time which elapsed from the commencement of the deposition of the older secondary strata, to that of the most recent of the tertiary beds, appears to be divisible into four great botanico-geological periods, of unequal duration, during each of which vegetation exhibited a common character. Each of these periods, therefore, is characterized by peculiar classes of plants, or may be said to have a Flora of its own; and each period embraces a certain number of the series of stratified rocks which compose the crust of the globe. During the continuance of each of those periods, vegetation seems to have undergone only gradual and limited changes—to have been subject to no changes which had an influence upon the essential character of the vegetation, taken as a whole; but, on the contrary, there is between one period and another a marked division, a sudden change in the most important characters of the vegetation. There exists no species common to two successive periods; all is different. The four great periods are as follows:—

A.—*The First Period* includes the coal measures and all the strata containing organic remains which lie below them. (M. to Q. Diagram.)

B.—*The Second Period* comprehends the vast deposits of red sandstone, magnesian limestone, and a sandstone lying above that limestone called the new red sandstone. (L. and part of K.)

C.—*The Third Period* commences with a kind of shelly limestone, that forms a member of the upper part of the group of red marly sandstone (K.), and includes all the superior secondary strata up to the chalk. (G. to I.)

D.—*The Fourth Period* includes all the strata more recent than the chalk. (C. to F.)

The periods are separated by strata, which, if not entirely destitute of *land* plants, contain them in very small quantity. Thus A. is separated from B. by a formation of coarse sandstone, (called by geologists the red conglomerate,) in which plants are of rare occurrence, and by the magnesian limestone in which marine plants are almost exclusively found: again, B. and C. are separated by the shelly limestone (muschelkalk of geologists), which is almost destitute of vegetable remains: and, lastly, C. is separated from D. by the chalk, in which, with rare exceptions, only marine plants have yet been found.

First Period.—The lowest strata in which animal remains are found contain also those of plants. The plants in the older sandstones are for the most part marine, but the impressions are usually indistinct. Black carbonaceous matter, without any organic form, is by no means unfrequent, and sometimes in considerable quantity, and it is not improbable that it is of vegetable origin, for fossil plants are very commonly found in the state of charcoal. It is in the beds of coal, and in the sandstones, clays, and limestones which accompany them, that vegetable remains first occur in profusion, and there are few phenomena in geology more remarkable than those enormous accumulations of vegetable matter from which the coal-beds have been derived. The most distinguishing feature of the vegetation of the period is the great numerical preponderance of the third class; viz. the vascular cryptogamæ, and the prodigious size which the plants attain. They constitute five-sixths of the whole flora of the period, while they do not form the proportion of one-thirtieth in the vegetation of the present time. The ferns of temperate regions are low plants with stems rising scarcely a few inches above the ground, but in the equatorial regions there are what are called tree-ferns, which have a stem from 20 to 30 feet high. Now the different kinds of fossil ferns of this period often correspond with the tree-ferns of the tropics, as is attested by the remains of their stems which are occasionally met with. The plants called lycopodiums constitute another order of this class, and are of a kind intermediate between tree-ferns and the fir-tree tribe. Those now existing never exceed the height of three feet, and are usually weak prostrate plants having the habits of mosses; but the fossil lycopodiums attain gigantic sizes, stems having been found above three feet in diameter, and 70 feet long. There is in this period a much smaller proportion of the fourth and fifth classes, in comparison with what occurs in existing vegetation, and, with the exception of the fir-tribe which was very common, the existence of the dicotyledonous class is little more than conjectured. The plants which constitute by far the larger proportion of the flora of the first period belong to genera which exist, of such dimensions, only in the warmest countries of the globe; and it is evident, therefore, that the climate of the north of Europe and America must have been at least as hot as that of the equatorial regions, at the time the plants grew which are now buried many fathoms underground in the coal-mines of those countries, it being here assumed that the plants had not been drifted from southern latitudes into those situations.

Second Period.—The red sandstones which were deposited so extensively at this period are even more destitute of vegetable than they are of animal remains. This absence of organic remains is a very remarkable circumstance, considering the great extent occupied by these deposits in all countries, and their vast thickness. The plants hitherto found in the lowest strata of the period have been almost exclusively marine, the few exceptions being vascular cryptogamæ resembling those of the first period. In the superior beds a few of the coniferæ or fir-tree tribe have been found, and some that are supposed to belong to the monocotyledonous class.

Third Period.—The lowest stratum of this period contains very few plants, and these chiefly marine; but they become more abundant in the sands, sandstones, clays, and limestones that succeed each other in numerous alternations up to the chalk. Many belong, however, to an entirely different race of plants from any which had previously existed. There are no longer the gigantic ferns and lycopodiums of the first period,—the same families exist, but the character of excessive luxuriance disappears, and species analogous to plants—now natives of the Cape of Good Hope and New Holland—become common. The whole of the flora of the period consists almost exclusively of the third and fourth classes, and nearly in equal proportions: the rarity of the fifth and sixth classes, that is, of monocotyledonous and dicotyledonous plants, is very remarkable. Among those belonging to the fourth class, viz. the gymnospermous phanerogamæ, there is an extraordinary preponderance of the family called *cycadeæ*, a family scarcely so numerous now over the whole globe as it was then in the small part of Europe where its fossil remains have been found; it constitutes now not above a thousandth part of existing vegetation, whereas it forms one-half of what remains of the flora of this period. The chalk, which constitutes the upper strata of the period, has not supplied as yet more than a few marine plants, and scarcely a trace of land plants.

Fourth Period.—From the termination of the deposit of the chalk formation, we discover in the animal and vegetable remains the commencement of resemblances to species which now exist; the proportion gradually increases in the newer strata, until at last the flora of the latest tertiary deposits differs very little in character from that of the present time in the same countries. In the beds immediately above the chalk, ferns and cycadeæ again appear, but in greatly diminished proportions; the coniferæ, but very different from those of the older periods, increase in quantity, mixed with palm-trees and others of the monocotyledonous class of tropical regions, associated with dicotyledonous trees, such as the elm, willow, poplar, chestnut, and sycamore. We again meet with local deposits of decayed, or rather altered, vegetable matter, forming thick beds of a kind of coal, which is used in many countries, as on the banks of the Rhine, for fuel,—something intermediate between coal and peat.

The following table, which is taken from the Prodromus of Brongniart, gives a general view of the character of the vegetation of each period, and a comparison of it with that of the present time, by showing the number of fossil species belonging to the several classes hitherto found in each of the four periods, and at the same time the total number of living species of the class, as now known to exist. This last enumeration is merely approximate, and the number of living species we know to be considerably understated.

Names of the Classes.	First Period.	Second Period.	Third Period.	Fourth Period.	Living Species.
1. Agamæ	4	7	3	13	7,000
2. Cellular Cryptogamæ...	..	..	..	2	1,500
3. Vascular Cryptogamæ ..	220	8	31	7	1,700
4. Gymnospermous Phanerogamæ	[illegible]	5	35	17	150
5. Monocotyledonous Phanerogamæ	16	5	3	25	8,000
6. Dicotyledonous Phanerogamæ	..	..	..	100	32,000
	240	25	72	164	50,350

Thus it appears, that while more than 50,000 living species of plants have been described, the number of known fossil species did not much exceed 500 at the time M. Brongniart wrote, viz. in 1828. Several have since been discovered, but the number is still very small; and, without undervaluing what has already been done, we may truly say that the subject is yet in its infancy, not only as regards the mere numerical existence of fossil species, but as to the general laws which future discoveries of new species must unfold to us.

The tertiary strata consist of a very extensive series of deposits, showing, by their position and the nature of their organic remains, that some of them must have been formed at much earlier periods than others of the same class, and that there is an order of succession in these, as in the secondary strata, which is never reversed. There is, moreover, abundant evidence that, in many instances, great local changes had taken place in the forms of the external crust of the globe, between the deposit of one series of the tertiary strata and that of the formation which lies above it. There is, however, among these beds a much greater resemblance to each other, in so far as mineral composition is concerned, than in the case of the secondary strata;—they consist of sand, sandstones, clays, and limestones, so very like one another, and, in fact, so identical in mineral structure, that it would be impossible to distinguish between two strata, that were probably deposited at periods many thousand years distant from each other, by the mere mineral characters, but which we are enabled to do, with the utmost precision, by the different species of fossil shells which they severally contain, generally in great abundance, and with their forms for the most part well preserved.

Observations have already been made in different countries with so great a degree of accuracy, and upon so extensive a scale, as to enable geologists to ascertain that there have been four great periods, succeeding each other in chronological order, during which the tertiary strata were deposited. The grand distinction between secondary and tertiary formations is founded upon the existence in the latter of animal remains identical with living species; and the extension of that same principle forms the ground of separation between the successive periods of the tertiary series. Mr. Lyell, in his work ('Principles of Geology,' vol. iii.), has been the first to give a full systematic view of all that we know concerning the tertiary system; and he has proposed expressive and convenient designations for the four great periods above alluded to, calling them the EOCENE, MIOCENE, OLDER PLIOCENE, and NEWER PLIOCENE PERIODS. The termination *cene* is taken from a Greek word signifying *recent*, and the rest of the term indicates the *proportion* of recent or living species contained in the deposit. Thus the first, or earliest period, which comprehends the deposits immediately after the chalk, he calls EOCENE, because recent species just then begin to appear; the second period he calls MIOCENE, from *meion*, signifying a minor quantity; the third period, the older PLIOCENE, from *pleion*, a major quantity; the fourth period, NEWER PLIOCENE, from the increased proportion of recent species.

It has been found that in certain beds above the chalk the number of fossil shells, which can be identified with living species, does not exceed one-thirtieth part of all the shells they contain, and these beds are referred to the Eocene period; another suite of deposits, lying above the Eocene, have been found to contain about one-fifth part of recent species, and these are considered as belonging to the Miocene period; above them come a more modern set, having from a third to more than a half of recent species, and these constitute the beds of the Older Pliocene period: the deposits above these last contain nine-tenths of recent species, and they are referred to the Newer Pliocene period. Expressed in numbers, the relative proportions stand thus:

Eocene period	containing	3½	per cent. of fossil shells identical with existing species.
Miocene period	,,	20	
Older Pliocene period	,,	50	
Newer Pliocene period	,,	90	

It is but a few years since the great tertiary division was established; and there is every reason to expect, from past experience, that the examination of unexplored tracks of those deposits will bring to light new groups, which, by their position and fossils, may be proved to be intermediate in point of age between two of the great divisions or periods above mentioned. Discoveries such as these Mr. Lyell anticipates, in which case we might have lower, medial, and superior *Eocene* deposits, and likewise lower, medial, and superior *Miocene* deposits. The observations already made have pretty well established that all living species are not of the same degree of antiquity; that some have preceded others upon the surface of the earth by an interval of time to which we have no means of assigning any limit.

Another grand distinction between the tertiary and secondary classes is the frequent occurrence in the former of strata which must have been deposited in vast lakes of fresh water, while we have no instances of the kind in the latter. We have, it is true, secondary deposits containing fossil remains of animals which must have lived in fresh water, but in those cases there is usually a mixture of marine shells, showing that these deposits must have taken place in æstuaries where great rivers had entered the sea. In the tertiary periods we meet with vast quantities of fossil shells belonging to species which inhabit lakes and rivers, many species of lake and river fishes and reptiles, of land animals, and of plants. These sometimes occur by themselves in accumulations of successive layers; at other times they are interstratified with beds containing marine shells only, and very often the productions of fresh water and sea water are mingled together in the same bed—phenomena which very clearly indicate extraordinary and very extensive local changes in the earth's surface. Some fossil shells identical with living species are common to all the four periods, others that are common to all the periods are now extinct. We have many instances of fossil shells belonging to living species mingled with the bones of extinct quadrupeds. Of all organized bodies, shells and corals have had the longest range of existence, for there are living genera of both which may be traced back from the tertiary beds to those strata in which the first dawn of animal life is discoverable.

Eocene Period.—One of the most extensive formations belonging to this period occurs round Paris, which is situated in a kind of trough of vast dimensions, formed by chalk hills rising around it on every side. From the form of the country, this deposit has been called the Paris Basin. London also stands in a hollow surrounded by chalk hills and filled with similar tertiary deposits; and this has been called the London Basin. In both, but particularly in the Paris Basin, besides innumerable marine and fresh-water shells, fossil bones of extinct quadrupeds and birds have been found in great quantities. It was the almost daily disinterment of such bones in the stone-quarries around Paris, together with the large collections of them in the museums of that capital, which first led Cuvier's attention to the subject. His splendid volumes on "Fossil Bones" have opened to geologists an entirely new field of observation, and established some of the most important truths at which we have arrived in the physical history of the earth.

The Paris Basin is about one hundred and eighty miles in a direction from N.E. to S.W., and ninety from E. to W. It is composed of a series of beds, the general arrangement of which is as follows:—

A. Above the chalk, but only partially, a deposit of plastic or potter's clay and sand, containing fresh-water shells, with accumulations of vegetable matter in that altered state called lignite, which is intermediate between peat and coal.

B. Coarse limestone, often very sandy, and passing into sandstone, and both abounding in marine and fresh-water shells, containing portions of palm-trees, as well as others of the dicotyledonous class. Thick beds of gypsum or Paris-plaster stone, containing land and fluviatile shells, fragments of palm-trees, and a great number of skeletons and detached bones of quadrupeds, birds, fresh-water fish, crocodiles, tortoises, and other land and river reptiles.

C. Thick beds of sand and sandstone, without limestone, containing shells, not in great abundance, *and exclusively marine*.

D. Calcareous marls interstratified with beds of flint and flinty nodules. From the larger masses of these flinty or siliceous portions they make the celebrated Paris millstones. These beds contain numerous fresh-water shells and a few plants.

The skeletons are found in the gypsum beds of the series B; they are usually isolated, and entire even in their most minute parts. About fifty species of quadrupeds have been discovered, four-fifths of which belong to a division of that order of animals called *Pachydermata*, or the thick-skinned, which contains at present only four living species, namely, three tapirs, an animal resembling a pig, and the daman of the Cape of Good Hope. This tribe of quadrupeds inhabit low plains and marshes, and the banks of rivers and lakes. There have been found also, in the same beds, bones of extinct species of the fox, dormouse, squirrel, and opossum, and about ten species of birds.

There is not so great a variety in the mineral structure of the tertiary strata of the London Basin as in that of Paris. Clay is the most prevalent, and it sometimes exceeds seven hundred feet in thickness: above it, there is a deep and extensive deposit of sand. No remains of terrestrial animals have yet been found in either of those beds, but skeletons and scattered bones of crocodiles and turtles have been occasionally met with. A series of tertiary strata belonging to the Eocene period, and very nearly resembling those in the basins of Paris and London, occurs in the Isle of Wight. Very perfect remains of tortoises and the teeth of crocodiles have been found in some of the beds; and in a limestone quarry at Binstead some teeth belonging to animals similar to those entombed in the gypsum strata of Paris.

Miocene Period.—A series of deposits, possessing characters which point out an epoch of formation distinct from, and probably long subsequent to, that of the strata lying immediately above the chalk, have been found in Touraine, the valley of the Loire, and several parts of the South of France, near Turin in Piedmont, around Vienna, in Hungary, and in Poland. These contain bones of extinct species of the elephant, rhinoceros, hippopotamus, horse, stag, pig, and of two quadrupeds belonging to extinct genera, called by Cuvier, Palæotherium and Anthracotherium. In some situations the bones of the latter animal have been found in deposits of the coaly matter called lignite, and in those cases they are frequently converted into a substance like coal. These remains of terrestrial quadrupeds are occasionally found with corals and shells growing upon them, so that they must have been transported to the sea and have lain there for some time before they were enveloped in the mud and sand which was afterwards consolidated into stone and raised above the surface of the water. They are also intermingled with marine shells, and with bones of the lamantin, morse, sea-calf, and dolphin. In the volcanic districts of Auvergne, in the centre of France, vast beds of gravel and loose soil, containing organic remains which identify them with the Miocene period, lie between layers of ashes and other volcanic products of great thickness. The bones of an extinct animal of great size, called the mastodon, have been found in that gravel; together with those of extinct species of elephant, rhinoceros, hippopotamus, ox, deer, boar, otter, beaver, hare, and water-rat, and those associated with bones of bears, tigers, hyænas, and wolves. In the adjoining country of Velay, bones belonging to the same animals have been found in a layer of volcanic ashes, which lies between two beds of solid lava. In the upper part of the valley of the Arno, not far from Florence, there is a great accumulation of tertiary strata of this period, which must have been deposited in an extensive fresh-water lake. They contain the bones of most of the land animals above mentioned; and the Italian geologist, Brocchi, relates that the quantity of fossil bones is so great that the peasants, before they found out that they were valuable as objects of curiosity, used to make palisades, for fencing in their gardens, of the thigh-bones and legs of elephants, dug from the soil around their dwellings.

Older Pliocene Period.—The most extensive deposit belonging to this period occurs in the northern part of Italy, in Tuscany, and as far south as Rome. The central mountain range of the Apennines is flanked by hills of marl, yellow sand, and gravel, generally low, but sometimes rising to the height of 2000 feet. These tertiary beds abound in marine shells, and in the remains of land quadrupeds, and of marine mammalia, so that it is evident the bones of the land animals were transported by running water to the bottom of the sea; and that they lay there a long time has been proved by the discovery, in the marl, of the thigh-bone of an elephant with oyster-shells adhering to it.

Newer Pliocene Period.—This most modern of the groups of the tertiary series has been established by Mr. Lyell, in consequence of his observations in Sicily, where he discovered extensive deposits of limestone and marl in the Val di Noto, which rise in some places to the height of 3000 feet above the level of the sea, containing shells, which prove the strata to have been deposited long subsequently to the sub-Apennine hills. These shells are in a very perfect state of preservation, and are, for the most part, species identical with those now living in the adjacent sea. He mentions other deposits of the same age in Italy and the Morea. To this period belong many accumulations of loose gravel, which cover vast tracts of country in most parts of the globe, and which are called by some geologists diluvial gravel and diluvium, because they suppose them to have been produced by some sudden flood passing over the earth.

This gravel contains, in many places, immense quantities of the bones of extinct species of quadrupeds, especially the elephant and rhinoceros; for remains of those animals have been met with in such situations in almost every country of the world. Indeed the quantity of elephants' bones is something quite extraordinary, even as far north as the frozen regions of Siberia. Eight different species of the mastodon have been discovered; and the gigantic bones of a still more extraordinary quadruped, the megatherium, have been disinterred from the banks of a river in South America. The greatest accumulations of the bones of the mastodon are on the western side of the Appalachian Mountains of North America, near the banks of the Ohio River, at a place called Big Bone Lick, and in other parts of the State of Kentucky; and they have likewise been found on the eastern side of the mountains, near the Hudson River. The animal resembled an elephant, but one of gigantic size, for tusks above 12 feet in length have been discovered. Along with the bones of the mastodon were found those of the elephant, rhinoceros, horse, ox, and stag. The bony structure of that clumsy monster, the megatherium, proves it to have been nearly allied to the sloths and ant-eaters. An almost complete skeleton of it was dug up about 45 years ago, near Buenos Ayres, and was sent by the viceroy of the province to the Royal Cabinet of Madrid; and lately several bones were discovered in the same district, and sent to England by Sir Woodbine Parish. The animal was above 14 feet long, including the tail, and 8 feet high: its claws are of enormous size. Remains of another quadruped of the same family, about the size of an ox, and which has been called the megalonyx, have been found in different parts of North America.

Caves are common in all countries where limestone hills exist; and many of them appear to have been the retreats of wild beasts and other animals. The floor is usually covered with a stony incrustation gradually formed by petrifying waters running in the bottom of the cave, and filtering through its sides. On breaking through the crust, or stalagmite, we come to loose earth, of variable depth, containing scattered bones, and fragments of bones, belonging to extinct species of quadrupeds of many kinds, and such as could never have lived together in one den, or even in very near neighbourhood. Thus in Kirkdale Cave, near Malton, in the East Riding of Yorkshire, which was explored and described by Dr. Buckland, there were found the bones of bears, tigers, hyænas, wolves, and foxes, mixed up in one common mass with those of the elephant, rhinoceros, hippopotamus, horse, ox, deer, hare, rabbit, rat, mouse, and several birds, such as pigeons, larks, ducks, ravens, and snipes. All these were not only mingled together, but many of them had evidently been gnawed. From the great proportion of hyænas' bones, and the intermixture of its peculiar hard earthy dung, it is thought that those animals must have inhabited the cave for a very long period, and that the bones of the other animals are the remains of living prey, or dead carcasses dragged by those ravenous beasts into their den. Thus it appears that after the land had assumed its present form, Great Britain swarmed with wild beasts similar to those which now roam in the forests and swamps of Africa.

We have now completed, in a brief and therefore incomplete sketch, that general view of the structure of the crust of the globe, which we consider to be a necessary introduction to the accounts of the natural history of those mineral substances which enter into the business of common life.

Coal.

Among the many mineral treasures which the United Kingdom contains, coal is unquestionably the most valuable. It is the chief source of our wealth and power as the foundation of our manufacturing industry; and without such an abundant supply of fuel, our iron, lead, tin, and copper ores must have remained in their native beds.

Coal is a compound substance, consisting of charcoal, bitumen or mineral pitch, and earthy matter. Its various qualities depend on the proportion in which these ingredients are combined; a large quantity of bitumen produces the fat caking qualities common in the Newcastle mines; and, when it is in small proportion, that dull variety which burns almost without flame; if there be much earth, the quantity of ashes is proportionably increased. The specific gravity of coal compared with that of water is, on an average, as 1,250 to 1,000. When we say that coal is a combination of charcoal and bitumen, we employ rather the terms of a popular explanation of its composition than the strict language of chemical analysis; for it consists of a greater number of elementary substances, all of which are gases, with the exception of the carbon. Carbon, which is charcoal in a state of purity, constitutes the chief ingredient of all coals, amounting to from sixty to seventy per cent.; it is a simple elementary body. Bitumen, the other chief ingredient, is a compound substance, for it yields a large quantity of hydrogen gas, or inflammable air; and oxygen gas, that which constitutes the pure part of the air of the atmosphere and sustains life, has also been found in considerable quantity in coal. When coal is strongly heated in a close iron vessel, the hydrogen gas is given out in combination with carbon, forming the gas used for lighting; and those coals which contain the most bitumen yield the largest quantity of gas. The flame of coal, in a common fire, is occasioned by a sort of distillation of the coal which is slowly going on; gas is given out in the process, and is set fire to. We often see the Newcastle coal, in our grates, swelling up like a soap-bubble, which is occasioned by the disengagement of gas in the softened bituminous coal; and when we hear a rushing sound issuing from the coals accompanied with smoke, if we bring a bit of lighted paper to the smoke, it catches fire on account of the large admixture of gas. The gas from coal may be exhibited in a very simple way, by putting some pounded coal into the bowl of a tobacco-pipe, closing it up well with clay, and placing it in a strong common fire; smoke will soon issue from the pipe, and, if a lighted candle be applied, it will catch fire and continue to flame for some time: what remains in the bowl is coke or charcoal.

The coals used in this country for fuel may be divided into three different kinds:—1. The stone-coal, or splent-coal, as it is sometimes called from its splintery fracture, has the least proportion of bitumen, and, being intermixed with much earthy matter, yields a large quantity of ashes. There is no precise name for this kind of coal, and there is consequently much confusion in descriptions of different coal-mines; what we speak of now is the prevailing quality in the Staffordshire and Scotch coal-fields; 2. The caking-coal, which is the prevalent quality in the Northumberland and Durham mines,—that used in London; and, 3. A variety called cannel-coal in England, and parrot-coal in Scotland, which has a very close compact texture, is hard and splintery, crackles in the fire, and burns with a very bright flame: it is found in comparatively small quantities. These different kinds are sometimes all met with in the same mine.

Coals are found under the surface of the ground, associated with beds of sandstone, of a hard slaty clay called shale, presenting great differences of composition, colour, and hardness, and occasionally with beds of limestone. These associated beds, or strata of coal, sandstones, clays, shales, and limestones, are usually called COAL-MEASURES by practical miners, and a tract of country containing the mines is a COAL-FIELD. There is no determinate order in which these strata occur in different coal-fields, but in different parts of the same coal-field they generally preserve a regular succession. Coal-fields are usually separated from each other by extensive tracts of country, composed of rocks in which no coal exists, and they vary in magnitude from a few acres to many square miles. The measures in the same field sometimes consist of 100 alternations of beds, all of very different degrees of thickness, from less than an inch to many feet; and this difference applies equally to the beds or seams of coal and to the rest, but the proportion of coal to the interstratified stones is always much inferior.

The rocks which are comprehended in what, as a whole, may be called the coal formation, are, beginning with the lowest—

1. The old red sandstone (P). When this is present it forms the foundation of the whole; and when not present, the coal-measures rest on the older strata which lie beneath that sandstone.
2. A limestone, called by English geologists the mountain limestone, and also the carboniferous limestone. (O.)
3. Beds of coarse sandstone, composed of sand and flinty pebbles, sometimes fine-grained, but more generally very coarse, called the millstone grit, (N,) grit being a provincial name for sandstone, and millstones being got from some parts of it.
4. The coal-measures. (M.) (Diagram, p. 235.)

In the north-eastern, midland, and southern coal-fields of England this is the usual order, the coal being all above the millstone grit; but in the north-west of England the beds of coal are interstratified both with the millstone grit and with the carboniferous limestone.

Thin seams of coal are occasionally found in some of the superior deposits of the secondary strata; but all the great coal-measures belong to the lowest part of the secondary series. (Diagram, p. 235.) Coal, such as we are now describing, has never been found in or below the old red sandstone, P, and never in or above the magnesian limestone, L, or rather a red sandstone which lies immediately beneath that limestone. No searches for coal, therefore, in the great series of strata which lie above the coal-measures, (Diagram,) or in the old red sandstone and the strata beneath, can ever turn to good account, and in ninety-nine cases out of a hundred would be fruitless. Vast sums of money have been thrown away in such attempts: and it is much to be regretted that many of those persons who, in this country, follow the profession of what is called a mineral-surveyor are extremely deficient in the knowledge requisite for the right understanding of their business. Men of property too often suffer themselves to be led into mining undertakings of vast expense by ignorant pretenders; and are often subjected to enormous losses which an application to a geologist might have saved them from.

The coal-measures do not lie horizontally as they are represented in the Diagram, p. 235. They must have been originally deposited, in most cases, on a level or nearly level bottom; but with very few exceptions indeed, the coal-measures have been thrown out of the horizontal line into highly-inclined positions, and frequently broken up and thrown about in the most extraordinary manner. One of the most simple cases of disturbance is represented by the following diagram :—

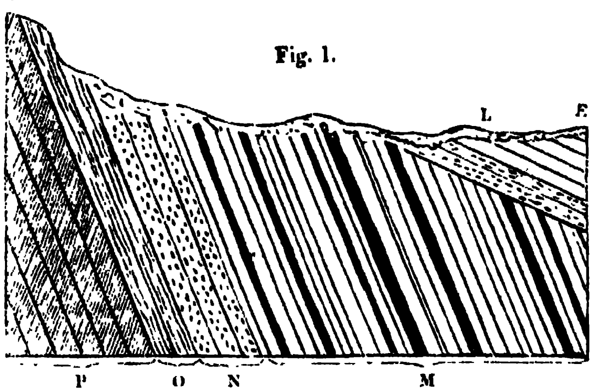


Fig. 1.

This is an ideal section, across a coal-field,—that is to say, if we made a deep perpendicular cut of the ground, and saw a wall exposed like a vertical cliff on the seashore, the strata would exhibit the appearance here represented, in many cases. We have, on the west, the old red sandstone P, covered by the carboniferous limestone O, which is succeeded by the millstone grit N ; then come the coal-measures M ; and, proceeding eastward, we find these dipping under the sandstone and magnesian limestone L, which cover them in what is called unconformable stratification. The coal-measures must have been thrown out of their horizontal position ; and the ends of the strata formed the bottom of the sea, while the materials of the sandstone and magnesian limestone were deposited upon them in horizontal stratification. It is not very often the case that the coal-measures are so much inclined as in this diagram ; they more usually dip, as it is termed, at a less angle : but it is a very frequent occurrence to find them forming a great trough or basin, rising all round from a central point, the sides of the basin being formed by the inferior sandstone or limestone, and the middle being filled up by strata superior to the coal-measures. The following diagram will explain what we mean :—

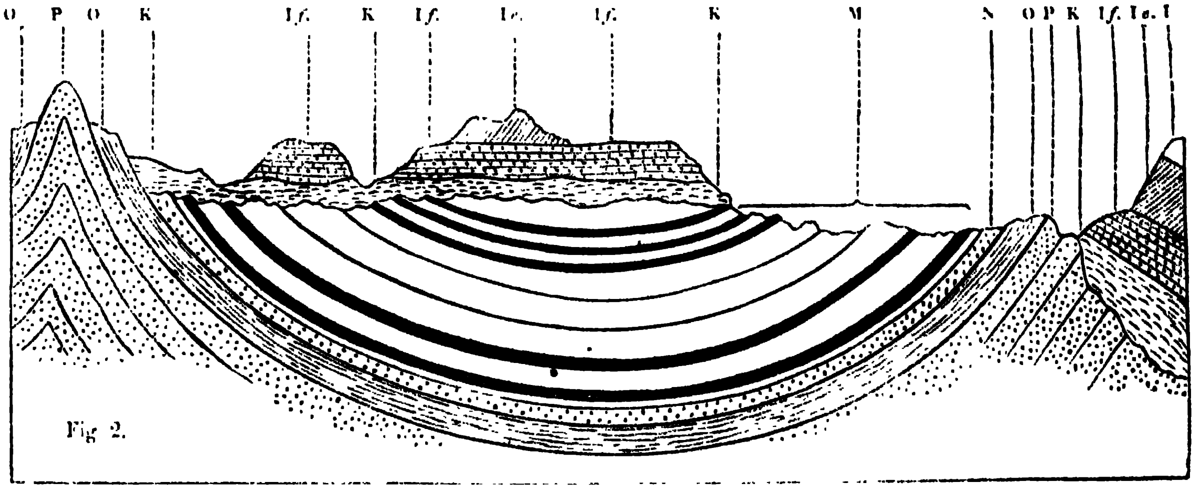


Fig. 2.

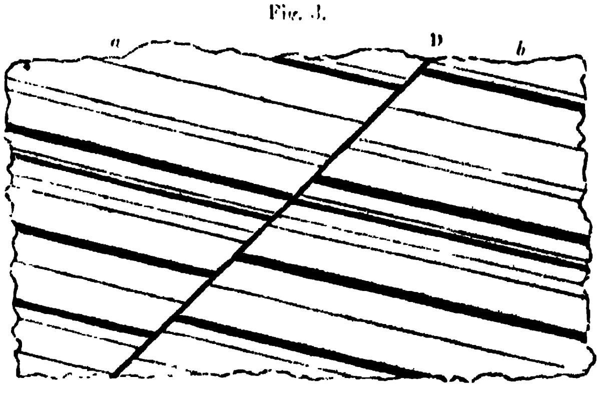
The ab[illegible]tters [illegible] p.

I. Upper oolite, or Bath stone.
I e. Inferior oolite, a coarse shelly limestone.
I f. Thin beds of limestone (lias) and slaty clay
K. Red marly sandstone.
M. The coal measures—with five pr
N. The millstone grit.
O. The carboniferous limestone.
P. The old red sandstone

This is a true representation of the strata in a part of the Bristol coal-field, the section being from the Mendip Hills, above Axbridge, through Dundry Hill to Fog Hill, north-west of Bath, in a direction between south-west and north-east, and extending about 20 miles. We do not of course mean to say that, if a vertical section were made along the whole line, the coal-measures would exhibit the regular curves here shown ; they would, doubtless, appear much disturbed and interrupted : the diagram gives only the general character of a country actually surveyed. Here we find the summit of the Mendip Hills, P, composed of the old red sandstone rising up in inclined stratification, and flanked on both sides by the carboniferous limestone O. In the south part of the coal-field the beds dip to the north ; but in the northern part they dip in the opposite direction, and, proceeding northwards, the millstone grit N is seen rising from under them, and from beneath that the limestone and old red sandstone again appear in succession. It is evident that, subsequent to the deposition of the old red sandstone and coal-measures, they were upheaved by a force from below, acting on several points at the same time, which turned up the strata into their present basin-shaped form. This section exhibits also another geological phenomenon of frequent occurrence, of the same kind as is seen in the ideal section, fig. 1 ; it shows that the disturbance took place prior to the deposition of the newer secondary strata K, I f, I e, for these strata lie upon the tilted-up ends of the coal-measures. It also affords proofs of great changes on the surface after the formation of these newer secondary strata, for the parts now detached were no doubt once continuous.

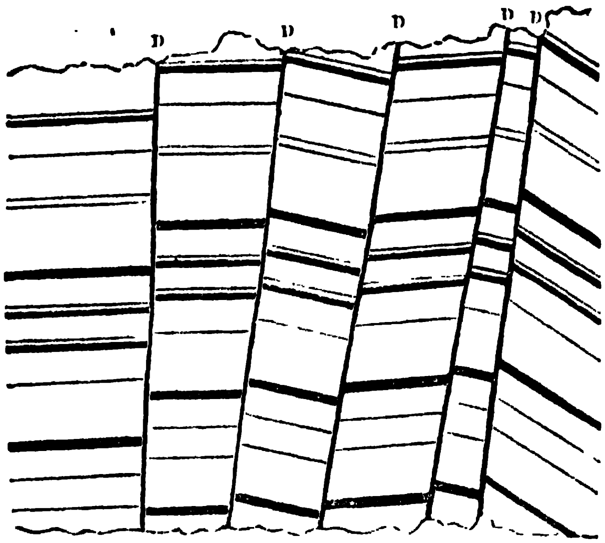
The coal-measures exhibit other proofs of having been subjected to great disturbances.

Fig. 3.



In fig. 3 the strata, in place of continuing uninterruptedly, are suddenly broken off by what is termed a FAULT or DIKE D ; and, on passing through this dike, it is found that the same beds occupy different levels on opposite sides of it, the corresponding parts being thrown out of the former plane, sometimes only a few inches, at others several fathoms, and even as much as 500 feet, so that the same seam of coal which on one side of the dike is perhaps not more than 20 feet from the surface, may be sunk to the depth of 500 feet on the other side of it. It is impossible to say whether it was the portion *a* which was depressed, or *b* which was upheaved. Sometimes several such dikes occur within a very short distance, as in the following diagram, which is a section of the coal-measures in Jarrow colliery, in the county of Durham, where there are five different dikes D, all producing changes in the levels of the strata on each side of them.

Fig. 4.



These dikes are clefts or fissures which often extend many miles; they penetrate in most cases to an unknown depth, and usually in a vertical direction. They are sometimes mere rents; at other times, and this is the more common case, they are filled with fragments of the disrupted strata imbedded in clay, which has subsequently filtered into them. In a part of the Newcastle coal-field, in Montagu colliery, there is a dike which is 22 yards wide.

The coal-measures are also disturbed by the passage of vast veins of trap, basalt, or whinstone, which have been ejected from the interior of the earth like lava, filling up vents either previously existing, or caused by the same force which threw the melted stone to the surface. They are also called dikes, with the addition of the name of the stone, whin dikes by miners, and basaltic dikes by geologists, and they produce the same effect of changing the planes of stratification on each side of them. They are very common in the coal-fields of Northumberland, Staffordshire, and Scotland.

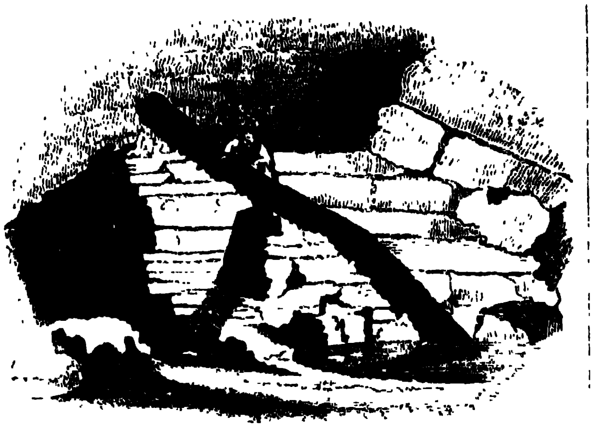
Dikes occasion vast difficulties in mining, not only on account of their interrupting the regularity of the seams of coal, but because they very often are conduits for water; and when pierced, a flood drowns the mine. If this total destruction of the mine does not take place, they cause such a constant flow of water that it can only be drawn off by powerful steam-engines at the surface. On the other hand, faults are often a source of great benefit, for when filled with stiff clay they prevent the access of water from the other side, and by means of them a valuable seam of coal may be thrown up within reach of working, which would otherwise have been lost.

If we examine a piece of the fat caking quality from Newcastle we find it a compact, shining, stony body; but there are few fragments in which we may not discover some parts very like charcoal, and often with the distinct structure of wood or other vegetable matter. Such appearances are most frequently observed in the slaty coal of Staffordshire and Scotland. By an ingenious application of the microscope, Mr. Witham has exhibited a delicate cellular structure in fossil woods, which, without such aid, presents only the appearance of compact stone; and he has detected the same in coal, by subjecting extremely thin slices of it to this very highly magnifying power. His researches have been followed up by Mr. William Hutton of Newcastle. Mr. Hutton states that, in all the varieties of coal found in the Newcastle coal-field, more or less of the fine, distinct, net-like structure of the original vegetable texture can always be discovered. The vegetable origin of coal is further illustrated by the vast quantities of fossil plants found in the sandstones and shales which are interstratified with the beds of coal. These are often in an extraordinary degree of preservation, for the most delicate leaves are spread out on the stone like the dried plants on the paper in the herbarium of a botanist.

About three hundred different species of plants have been discovered in the coal-measures of this and of other countries, and of these fully two-thirds have a close resemblance to ferns. Among the rest, one of the kinds most frequently found belongs to the tribe of plants called the *equisetacea*, of which the weed so common in our ditches, known by the name of horse-tails, is an example; but the stem of these weeds rarely exceeds the diameter of a goose-quill, and the fossil equiseta are sometimes as thick as a man's arm. Other fossil coal-plants resemble large reeds and canes; and bodies which appear to be fragments of the branches and stems of palms and other trees are of frequent occurrence. No remains either of grasses or of mosses have yet been observed in the coal-measures—plants which are not very often absent where vegetation is abundant, especially in moist situations; and the character of the whole fossil flora of the coal-fields shows that the plants must have grown in marshy or humid ground. These terrestrial plants are never mixed with any of those which grow in the sea. It is a very striking fact, too, that they are generally of such a size as to indicate a degree of luxuriance of growth that is now known to exist only in tropical regions. "It would hardly be credited," says Professor Lindley, in his 'Fossil Flora of Great Britain,' "by persons unacquainted with the evidence upon which such facts repose, that in the most dreary and desolate regions of the present day, there once flourished groves of tropical plants of coniferæ, like the Norfolk island and Araucarian pines, of bananas, tree ferns, huge cacti, and palms; that the marshes were filled with rush-like plants fifteen or twenty feet high, and the coverts with ferns like the undergrowth of a West India island."

In the greater proportion of the fossil plants of the coal-measures there is little appearance of woody matter: stems of a foot and a half in diameter have been found with the external form perfectly preserved, but having only a coating of coaly matter of inconsiderable thickness, the interior part consisting of sandstone or clay, with now and then some more coaly matter in the centre, indicating, as it were, the pith. But trunks of trees, in which the woody texture was preserved nearly throughout the whole stem, have often been met with: they have been seen in the coal-mines of Westphalia sixty feet in length; and two remarkable instances of fossil trees in the coal-measures have occurred in Great Britain, which have been well described by Mr. Witham. In a bed of sandstone near Gosforth, about five miles north of Newcastle-upon-Tyne, a stem was found which measured seventy-two feet in length, four feet in width at its lower end, from which it tapered gradually, and was eighteen inches wide at the top. It was in a compressed state, as if flattened by great incumbent pressure, so that the above dimensions of the width are not the true diameter of the stem. The woody structure was, in this instance, only in part preserved, but in those places it was converted into a siliceous or flinty petrifaction, containing cavities lined with rock crystal; and this petrified portion was, in one place, nearly two feet in diameter. There were no roots attached to it, and no branches, but there were large knots and other places where branches appear to have been broken off. The other instance occurred in the great freestone quarries of Craigleith, near Edinburgh, from which the greater part of the New Town of that city has been built, a sandstone belonging to the coal-field of Mid-Lothian, but underlying, it is believed, the regular coal-measures. It was a stem forty-seven feet long,—a large branchless trunk, in some parts very much flattened, the greatest diameter being five feet, the smallest nineteen inches. It was imbedded in the solid stone, with above a hundred feet of layers of rock above it, and lay across the strata, thus passing through several beds.

The following sketch of the appearance of the tree, as it was laid bare in the quarry, is copied from Mr. Witham's Memoir:—



[Fossil Tree at Craigleith Quarry.]

The bark was converted into coal; but, in the interior, the woody texture was in many places perfectly preserved. A large portion of this stem is in the Museum, and another in the Botanic Garden of the University of Edinburgh.

It is the general opinion of geologists that our beds of coal have been produced by vast quantities of plants carried down from the land and accumulated at the bottom of the sea, during a long succession of ages; the numerous alternations, amounting to many hundreds, sometimes of sandstone, shales, and beds of coal, proving a long duration of the process of deposition. The character of the vegetation indicates not only a tropical but also an insular climate: that is, the plants must have grown on islands in a very moist atmosphere, and in a heat as great as or even greater than that of the West Indies.

This mode of accounting for the deposition of our coal-beds is greatly in conformity with what is now going forward in many parts of the earth. Every river must carry down to the sea more or less of the trees and other plants which fall into it, or are swept from the banks by the force or undermining action of the stream; and the accumulation of such vegetable matter at the mouths of the larger rivers must be very great. In the case of the Mississippi, for instance, vast rafts, composed of trees held together by the interlacing of smaller plants, which have been washed from the banks by the main stream and its numerous tributaries, are floated down into the Gulf of Mexico, bearing upon them a luxuriant covering of plants. In many parts of the sea coast, by depressions of the land, great forests growing near the shore have been sunk below the level of the sea; the trees have been thrown down, and in process of time covered with mud and sand. Such submarine forests now exist on the coast of Lincolnshire, and near the mouth of the river Parrot in Somersetshire in the Bristol Channel.

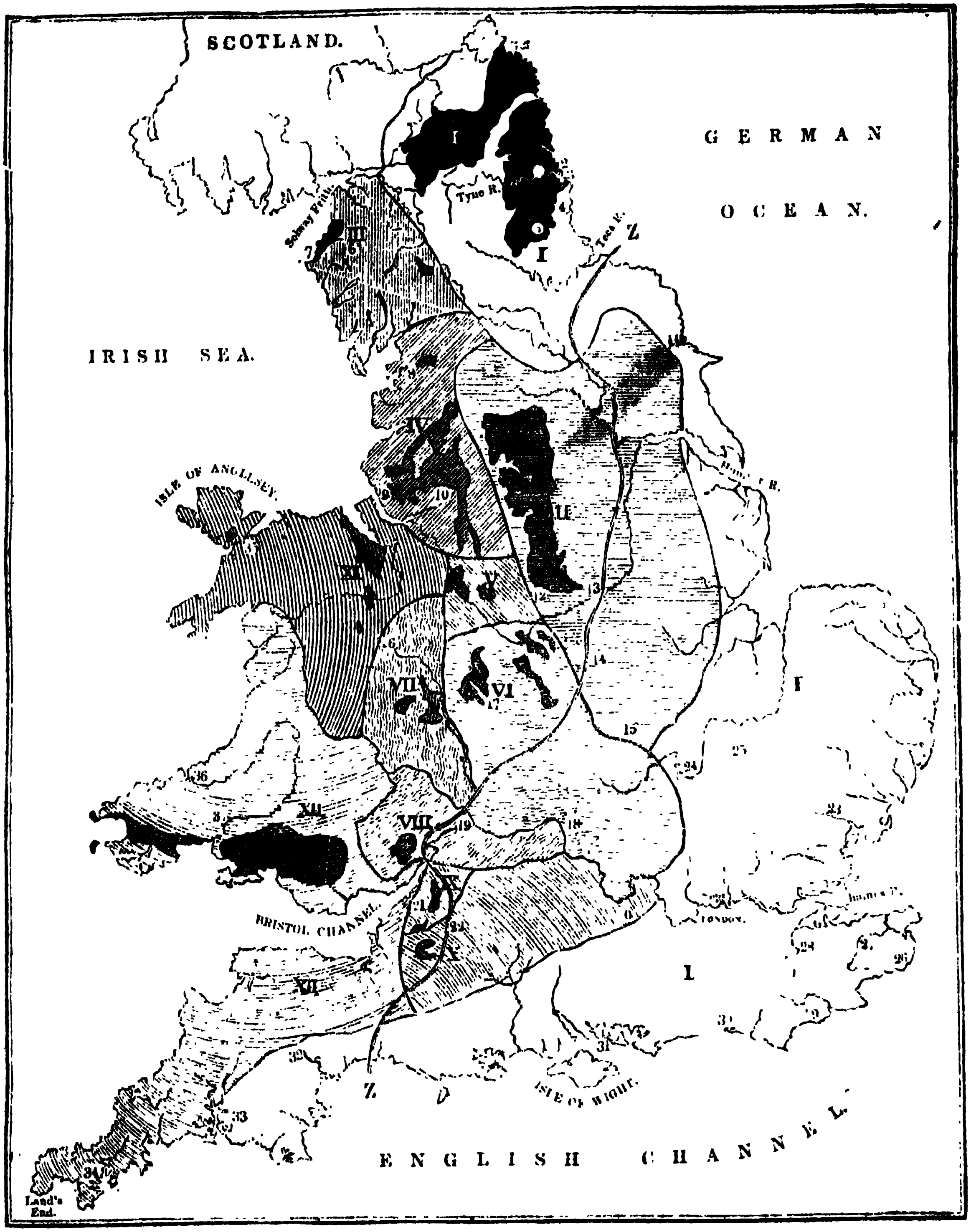
But it may be thought that trees and other vegetable bodies, although carried down by the rivers to the sea, would continue to float, until, by the gradual process of decay, they would totally disappear. But wood swims in water only in consequence of the air contained in its cells; and it sinks as soon as the air is withdrawn from it. Very long soaking in water will expel the air, but this will take place more speedily when great pressure is applied at the same time. Captain Scoresby, in his Account of his Voyages to the Whale Fishery in the Arctic Regions, states that a whale, on being harpooned, ran out all the line in the boat, and as the end of the rope was made fast, the boat was dragged by the fish under water. When the whale returned to the surface to breathe, it was killed; but it began to sink as soon as it was dead, in consequence of the weight of the boat, which was still attached to it by the line of the first harpoon remaining in its flesh. The sunken boat was raised with great difficulty; for so heavy was it, that, although before the accident it would have been buoyant when full of water, it now required a boat at each end to keep it from sinking. When they got it into the ship, the oaken planks were, Captain Scoresby says, "as completely soaked in every pore, as if they had lain at the bottom of the sea since the flood." A piece of light firwood, about fifteen inches square, that had gone down with the boat, when thrown into the water again sank like a stone.

The conversion of vegetable matter into coal has been proved, by the observations of Dr. M'Culloch on peat-bogs, and by a series of experiments in the laboratory. Coal, freed from its adventitious earthy matter, which is merely mechanically mixed with it, is resolvable into the same ultimate elements as wood; and Dr. M'Culloch ascertained that the action of water on turf, or submerged wood, is sufficient to convert them into substances capable of yielding bitumen on distillation, and black and brittle like those varieties of coal called, by mineralogists, lignite and jet; and he is further of opinion that great pressure and long-continued action may have produced the other modifications. The coal so produced differs, however, very materially in appearance and properties as fuel from the coal of our mines; and the last link of the chain between a lump of Newcastle coal and a growing tree has yet to be found.

Previously to the researches of the English geologists, within the last fifteen years, very vague notions prevailed as to the extent to which coal was spread over England. But since the publication of the geological maps of Mr. Greenough and Mr. Smith, we know where our present coal-fields are situated, where there is a possibility that others may exist, and where the mineral structure of the ground is of such a nature as to make it certain that searches after coal in such situations can only end in disappointment. The annexed outline map gives a general view of all the coal-fields of England: and it will be seen that fully one half of the country is destitute of coal; for all that lies east and south of the double line Z Z, from the mouth of the Tees in Yorkshire to Lyme Regis in Dorsetshire, is composed of the superior secondary strata: and although some of these do sometimes contain thin beds of coal of a particular kind, it may be confidently said, that the kind of coal which we usually consume will never be found in those upper secondary strata; and, unless under very favourable circumstances, the inferior kind above alluded to can never be worked with profit. It will also be seen how comparatively small a space the coal-measures occupy. The spaces here marked with dark lines are the *geological* boundaries of the coal formations, which, as we have already explained in previous sections, consist of many different kinds of stone besides coal; workable coal is not spread over the whole space marked by the darker shade; but there is a very large part of all those spaces where not a trace of coal is to be seen.

The map also exhibits the boundaries of the country which each supplies with fuel. We are indebted for this information to the evidence given by Frederick Page, Esq., before the Committee of the House of Commons on the Coal Trade in 1830. In the annexed map, it is to be understood that all the space included within the line which surrounds a coal deposit is supplied from that source. These boundaries are of course not rigorously correct, but they are sufficiently so to give a tolerably accurate general view how far the market of each coal-field extends, independent of foreign export, and the supplies to Scotland from the Northumberland district, and to Ireland from the western coal-fields. The extent which the consumption of a coal-field reaches, depends upon a variety of circumstances, such as the facility of transport by sea or by

A MAP SHOWING THE GEOLOGICAL POSITION AND COMMERCIAL DISTRIBUTION OF THE COAL OF ENGLAND AND WALES.



1 Newcastle.
2 North Shields.
3 South Shields.
4 Sunderland.
5 Durham.
6 Cockermouth.
7 Whitehaven.
8 Lancaster.
9 Liverpool.
10 Manchester.
11 Scarborough.
12 Derby.
13 Nottingham.
14 Leicester.
15 Northampton.
16 Shrewsbury.
17 Birmingham.
18 Oxford.
19 Gloucester.
20 Windsor.
21 Bristol.
22 Bath.
23 Colchester.
24 Bedford.
25 Cambridge.
26 Dover.
27 Canterbury.
28 Maidstone.
29 Hastings.
30 Brighton.
31 Portsmouth.
32 Exeter.
33 Plymouth.
34 Falmouth.
35 Caernarvon.
36 Cardigan.
37 Caermarthen.

The dark shade of the tint shows the extent of the Coal-fields.

The lighter shade represents the districts of the country supplied by them.

The lines which express the tints are in both cases parallel to each other, and in each of the twelve districts have a different direction, except the Newcastle and Durham, in which, for the sake of clearness, the coal-fields (I.) have been left black, and the places supplied by them white. Each district is surrounded by a strong black outline.

canals, the quality of the coal, and its price at the pit's mouth; this last must be in a great degree regulated by the expense of bringing it to the surface, which is very variable, according to situations.

There are in England and Wales twelve great coal-fields, of which those marked I. II. IV. VI. XII. are the most important. These are,

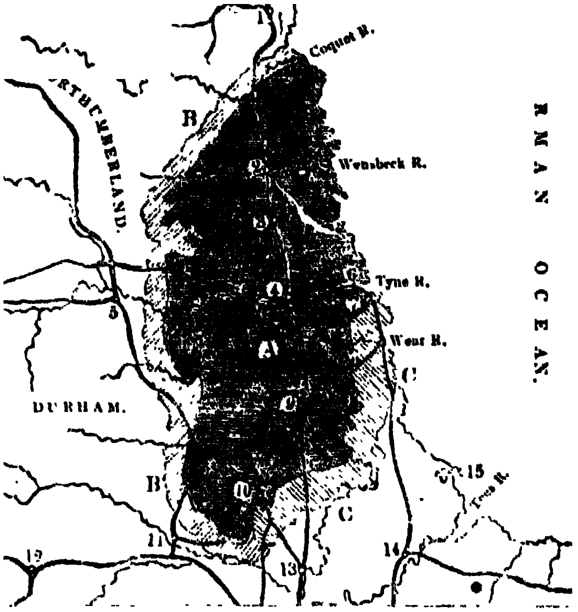
- I. The Northumberland and Durham Fields, the almost exclusive feeders of London, and supplying also the whole of the eastern and southern coasts from Berwick to Plymouth, and as far inland as the county of Bedford. Formerly the inland markets extended further; but the extension of canals has brought other and cheaper coals into competition. There is also a very large foreign export, and a considerable quantity is sent to Scotland.
- II. The Yorkshire, Nottinghamshire, and Derbyshire Fields.
- III. The Whitehaven Fields.
- IV. The South Lancashire Fields.
  This, with the Yorkshire and Nottinghamshire Fields, are the foundation of our great national superiority in the woollen and cotton manufactures, the principal seats of which are upon them.
- V. The North Staffordshire, or Pottery Fields.
- VI. The South Staffordshire, or Dudley and Warwickshire Fields,—not of great superficial extent, but immensely productive, and containing the thickest seam of coal in the island. It is also one great seat of our iron manufactures.
- VII. The Shropshire Fields, including Colebrook Dale, and the Plain of Shrewsbury.
- VIII. Forest of Dean Field.
- IX. South Gloucestershire, or Bristol Fields.
- X. Somersetshire Field.
- XI. North Wales, or Flintshire Fields.
- XII. The South Wales Fields, comparatively little worked as yet, but the most extensive of all, and upon which our posterity must depend, when the other fields are exhausted.

Thus it will be seen that all the coal-fields, and all the great seats of our manufactures, lie to the north and west of the line Z Z, which is the boundary of the middle and superior strata of the secondary series; for, with the exception of some detached points in Somersetshire and Glamorganshire on the Bristol Channel, neither the lias limestone, nor any of the formations superior to it (I. in the Diagram, p. 235) are found westward of that line. The new red sandstone K, which is immediately under the lias, and covers so vast a surface in the midland and northern counties, lies to the north and west of the line; many of the coal-fields are surrounded by it, and it is possible that others may be discovered within its domain, either where it is partially denuded, or where it is so thin that it may be sunk through without great expense. All searches for coal in the red sandstone itself would, according to every probability, end in disappointment.

The Newcastle coal-field is by far the most important of all those at present worked in England. The area covered by this coal-field will be seen by the map at the top of the next column.

The length of the coal-field, from the Tees to the Coquet, is almost fifty-five miles; its greatest breadth, between the mouth of the Tyne and the Western Pits, about twenty-two miles. It is bounded on the east, from a short distance south of Shields very nearly to its southern termination, by strata of magnesian limestone under which the coal-measures have been found to be prolonged in many places: along the northern half of its eastern limit, the coal-measures are exposed in the cliffs on the sea-shore. The whole of the western side is bounded by the Millstone Grit, upon which the coal-measures repose. (See Diagram, p. 235, L, M, N.)

The entire area contained within those limits is occupied by beds of sandstone and shale, of great variety of composition and thickness, interstratified with seams of coal, also of different degrees of thickness. The valuable seams of coal are in general very deep beneath the surface of the ground, and are got at by a circular opening like a well, called a shaft, which is sunk perpendicularly through the strata. The following enumeration of the different strata thus passed through in order to get at workable seams of coal in Bigge's Main Colliery, to the depth of 1158 feet, will show the numerous alternations of which the coal-measures consist in the Newcastle coal-field. The section is one of several given by Mr. N. J. Winch, a practical mining engineer, in his 'Observations on the Geology of Northumberland and Durham,' published in the 4th volume of the 'Transactions of the Geological Society.'



A. The coal-field, tinted with horizontal lines.
B B. Mill-stone grit, tinted with lines sloping to the right.
C.C. Magnesian limestone, tinted with lines sloping to the left.

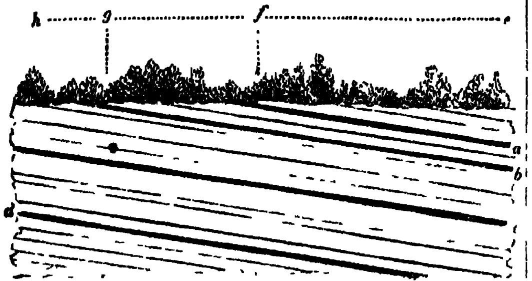
1 Alnwick.
2 Morpeth.
3 Stannington.
4 Newcastle.
5 Hexham.
6 North Shields.
7 South Shields.
8 Sunderland.
9 Durham.
10 Bishop Auckland.
11 Barnard Castle.
12 Appleby.
13 Darlington.
14 Stockton.
15 Hartlepool.

	ft.	in.
1. From the surface of the ground they sunk through clay to the depth of	102	
2. Through sandstone	42	6
3. They then came upon the first seam of coal, but which had only a thickness of		8
4. From this seam to the thick bed called the High Main Coal of the Tyne, they sunk through 29 different beds of sandstone and shale, varying in thickness from 40 inches to 31 feet, interstratified with 8 seams of coal from 5 to 18 inches thick, amounting together to	418	2
5. The High Main Coal of the Tyne had here a thickness of	6	8
6. From this seam they sunk farther through 52 beds of sandstone and shale, varying from 5 inches to 34 feet in thickness, interstratified with 19 different seams of coal from 2 to 37 inches thick, and amounting together to	503	2
7. They now came upon the seam of coal called the Low Main Coal of the Tyne, which had in this pit a thickness of	2	9
8. And they sank beneath this through 10 different beds of stone, from 12 inches to 12 feet thick, and two seams of coal of 4 and 12 inches, making together	82	
and giving a total depth of	1158	

having passed through 125 different strata, including 32 seams of coal, 19 of which have been worked.

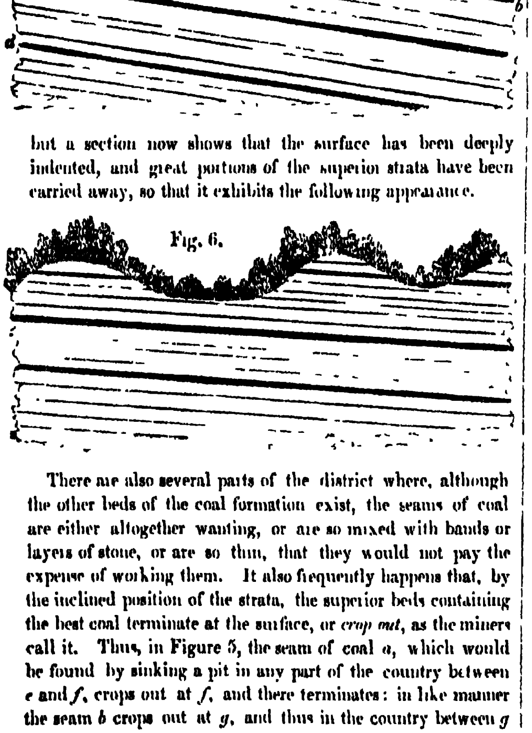
The coal-measures lie in an inclined position, and at different angles of inclination in different parts. The consequence of this is, that the same seams are found at much greater depths from the surface in one colliery than in another. Nor will two distant parts of the field give the same succession of strata in a vertical section, either as regards the beds of stone, or the seams of coal, in point of quality and thickness: the same seam of coal swells out in one place, and in another thins off so much as not to be worth working, and the same thing occurs with the sandstone and shale; a bed of stone or seam of coal, which in one pit is scarcely perceptible, will increase in another pit to several feet. Neither are these coal strata continuous over the whole area. In many parts of the district, a vertical section of the ground would at one time have presented an appearance similar to the following:—

Fig. 5.



but a section now shows that the surface has been deeply indented, and great portions of the superior strata have been carried away, so that it exhibits the following appearance.

Fig. 6.



There are also several parts of the district where, although the other beds of the coal formation exist, the seams of coal are either altogether wanting, or are so mixed with bands or layers of stone, or are so thin, that they would not pay the expense of working them. It also frequently happens that, by the inclined position of the strata, the superior beds containing the best coal terminate at the surface, or *crop out*, as the miners call it. Thus, in Figure 5, the seam of coal *a*, which would be found by sinking a pit in any part of the country between *e* and *f*, crops out at *f*, and there terminates: in like manner the seam *b* crops out at *g*, and thus in the country between *g* and *h*, instead of having the three seams of coal, *a*, *b*, *c*, they have only the last of these. If they go deep in sinking their shaft they may come upon the seam of coal *d*, which the inclination of the strata may have brought within their reach, but which was unavailable in the country from *e* to *f* on account of its great depth. All the most valuable mines in the southern division of the coal-field are situated between the river Wear and the magnesian limestone which bounds the coal-field on the east; and a large proportion of the country west of the Wear, by this cropping out of the beds is occupied by barren strata of sandstone and shale, containing, occasionally only, a few small and unimportant seams, but no good workable beds of coal: and there is an enormous thickness of barren coal-measures beneath the low main coal, that crop out westward between Newcastle and the mountain called Cross Fell. It is probable, too, that along the whole west frontier of the triangular portion of the coal-field north of the Tyne, one-half of the area is occupied by strata barren of workable coal.

No bed of coal is uniformly good throughout any great extent: the high main coal is for many miles so deteriorated in quality, and so mixed up with stone, that it becomes worthless in many places. The coal seams worked in this field vary from eighteen inches to fourteen feet in thickness; but in the thick seams there is always a considerable portion of such bad quality as not to be saleable at a profit: and the best quality is seldom more than about six or seven feet thick. Throughout the whole of this field the best coals are those in the superior part of the series of strata of which the formation is composed. The best beds are those called by the miners the High main and the Low main.

The mode of working coal-mines varies in different parts of the country, partly on account of the situation of the seams of coal in the ground, and partly on account of customs peculiar to the spots. That which we are about to describe is the method usually adopted in the Newcastle coal-field; the chief sources of information on the subject are contained in the evidence given before the Committees of the Houses of Lords and Commons in 1829 and 1830, by Mr. Buddle and Mr. Taylor, eminent engineers or coal viewers, and of large experience in the north of England collieries.

No instances occur in this country of beds of coal lying so near the surface that they can be worked in open day like a stone quarry, nor are they often met with in the side of a hill, so that the mines can be pushed forward in a horizontal direction. When, therefore, a coal-field is to be *won*, as it is technically called, that is, when the coals are to be taken out, the first step is to sink a perpendicular circular shaft like a great well, in order to get at the coal, and by which the miners or pitmen descend, and the coal is brought to the surface. The sum required for winning a field of coal, that is, the coal under a certain portion of land marked out on the surface, is sometimes so considerable, and the risk of failure so great, that very few individuals venture upon it on their sole account. They are usually won by a company, called adventurers, who take a lease from the proprietor. On the river Tyne there are only five proprietors, out of the 41 collieries, who work their own mines, and on the river Wear there are only three out of eighteen collieries; all the rest are in the hands of lessees or adventurers. The capital is raised by shares, often of small amount, and being transferable are constantly in the market. Collieries vary exceedingly as to the amount of capital required to win them, the difference being so great as from 10,000*l*. to 150,000*l*. One of the difficulties in sinking a shaft is passing through quicksands; another is the immense quantities of water which are met with in certain parts of the stratification, generally within 40 or 50 fathoms from the surface, which is always dammed back by a tub. Mr. Buddle mentions a shaft in which he had to apply 40 fathoms, that is, 240 feet of cast iron tubbing. One shaft is not sufficient, another being required for drawing up the water and for ventilating the mine.

The depth of the mines is very various; in one place near Jarrow, about five miles from the mouth of the Tyne on its southern bank, the High main coal of the Tyne is found within 42 feet of the ground, and the same coal lies under Jarrow Lake more than 1200 feet from the surface. This great depth is not reached by one perpendicular shaft, but a shaft an steam-engine underground, with descending inclined plane. A great improvement was made by this erection of steam engines to be worked in the pits underground, and which fir took place in 1804.

The pit having been sunk to a sufficiently thick seam of coal, the process of excavating is begun by cutting out the coal laterally in galleries. In the Newcastle mines large masses of the coal, named pillars, are left to support the roof, at short intervals; but in Staffordshire the whole of the coal is taken away, and the roof of the mine is suffered to fall down, care being taken to support it so far as not to endanger the safety of the workmen. One set of workmen is employed in digging out the coal, and another in removing it to the bottom of the shaft, from whence it is drawn up by machinery to the surface. The work of the miners is very laborious, especially where the seams are so thin as to prevent their being in an erect posture.

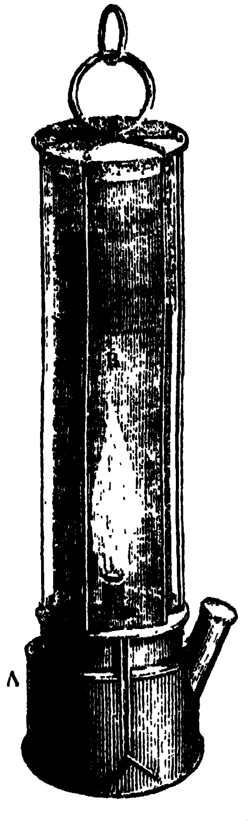
In many collieries, after the whole of the coal has been got out in the ordinary way of working, they gradually cut away a part of the pillars of coal which have been left at intervals for the support of the roof, substituting props of timber; and sometimes the whole of the pillar may be taken away without the roof falling in so as to impede the workmen in other parts of the mine. When the whole of the coal has been excavated and the roof does not fall down, vast empty spaces or wastes are left, which very generally after a while become filled with water, to the great danger of the adjoining collieries.

The chief accidents to which collieries are exposed, besides that of the roof and floor coming together by the pressure over the places where the coal has been worked out, are inundations of water, and explosions of gas. The quantity of water which flows into the mines is sometimes enormous, and the expense of drawing it off by pumps worked by steam-engines is one of the heaviest charges of a colliery. Mr. Buddle states, that in one with which he is connected, they draw eighteen times the weight of water which they do of coal. It very often happens that a mine is drowned by an accidental opening into an old working filled with water.

But of all the accidents to which coal-mines are exposed, the explosions of inflammable gas or fire-damp are the most frequent, and by far the most calamitous in their consequences. All coal, even the charcoal-like variety called anthracite, appears to contain, in its natural state while underground, a considerable quantity of free uncombined gas which it parts with when exposed to the air, or when it is relieved from great superincumbent pressure. The gas is evolved from the coal in great quantity at the ordinary temperature of mines; and instances have been known of explosions on board of ships laden with fresh-worked coals. Coals lying deep give out more gas than those near the surface, because there are openings at the surface by which it escapes; but in the deep mines it cannot have such an outlet, and therefore it accumulates in all the fissures of the stone above the coal, and this sort of natural distillation is constantly going on. The fissures of the roof are in some places very great, and there are sometimes miles of communication from one fissure to another; they may be considered as natural gasometers, and having no outlet, and the process of distillation constantly going on, the gas becomes accumulated in them in a very highly condensed state, the degree of condensation depending on the thickness of the surrounding rock, and the quantity poured in. In the course of pursuing the workings the miners sometimes cut across one of those fissures, or approach so near to it, that the intervening rock becomes too weak to resist the elastic force of the compressed gas; it gives way, and then, in either case, the gas rushes out with immense force. These *blowers*, as they are called, emit sometimes as much as 700 hogsheads of gas in a minute, and continue in a state of activity for many months together. Sir James Lowther found a uniform current of gas in one of his mines for two years and nine months.

This gas, in the state in which it issues from the coal, burns with a bright flame, like ordinary artificial coal gas; but when united with a certain proportion of the air of the atmosphere, the whole volume of air, upon the approach of a flame, suddenly catches fire, and goes off like gunpowder, with a tremendous explosion. If there be more than one volume or bulk of the inflammable gas to fourteen of atmospheric air the mixture is explosive, and must not be approached with a naked flame. Great pains are taken to ventilate the mines so as to free them from this foul air, by large fires kept constantly burning at the mouth of the ventilating shaft, aided very often by air-pumps worked by steam-engines to quicken the draft. One mine is described by Mr. Buddle as generating so much gas as to require a supply of 18,000 cubic feet of atmospheric air in a minute to keep it in a safe working state. Men can continue to work and breathe in an explosive mixture of the gas without feeling any material inconvenience; and formerly such places were approached by making use of what were called Steel Mills, to give light. This machine consists of a small wheel of steel, of six or seven inches diameter, moved by a little toothed wheel with great velocity, and by holding a piece of flint to the steel, a stream of sparks is given out. Although in the day the light appears very feeble, in the darkness of the mines it is strong enough to enable one to write by it; but the use of the steel mill is not free from danger of explosion in certain mixtures of the gas. That contrivance has, however, been now completely set aside by the important discovery of Sir Humphry Davy, the SAFETY-LAMP.

Davy instituted a long series of experiments on the nature of the fire-damp, and on the proportions with which it must be mixed with atmospheric air in order to become explosive. He found that, in respect of combustibility, the fire-damp differs most materially from the other common inflammable gases, inasmuch as it requires a far higher temperature before it can be set on fire; an iron rod, at the highest degree of red heat, and at the common degree of white heat, did not inflame explosive mixtures of the fire-damp, and an explosion only took place when a flame was applied. He further made the important discovery, that flame will not pass through a tube with a very small bore; and, guided by this principle, he was ultimately led, through a train of ingenious experiments, to the construction of an instrument which has saved the lives of hundreds, and which has rendered a large extent of property productive that the proprietors were unable to turn to any profitable account. The accompanying is a representation of "THE DAVY," as the safety-lamp is now called by the miners.



The construction of it is very simple:—A. is the lamp in which oil is used; and there is a small, bent wire, moved by passing smoothly through a hole in the bottom, for the purpose of trimming the wick. B. is a cover of fine wire-gauze, which is fastened upon the lamp, and generally locked to prevent the miners taking it off; and this cover is strengthened by upright wires, twisted at the top to receive a ring for carrying the lamp. Some recent improvements have been lately introduced by the application of reflectors, for the purpose of concentrating the light. When the lamp is carried into a part of the mine which is highly charged with fire-damp, the flame of the wick begins to enlarge, and the air, if it contain so much of the inflammable gas as to be highly explosive, takes fire as soon as it has passed through the gauze, and then burning within the lamp extinguishes the flame of the wick by cutting off all communication with the pure air of the atmosphere. Whenever this appearance is observed the miner must instantly withdraw; for although the flaming gas within the lamp cannot pass through the gauze so as to set fire to the explosive mixture outside, it makes the wire gauze so hot that it would very speedily be wasted, and a hole, large enough to let the flame come out, would be burned.

The annual consumption of coals in Great Britain is enormous; but there are no means of ascertaining the amount with anything approaching to accuracy. In the evidence before the Committees of the Lords and Commons, in 1829 and 1830, we have some calculations by Mr. Buddle and Mr. Taylor. Mr. Buddle says, "The calculation which I have made of the consumption of England and Wales is as follows:—manufactories 3,500,000 London chaldrons; household consumption, 5,500,000, making 9,000,000 in all consumed from inland collieries: the quantity sent coastwise, on both sides of the island, is 3,000,000; together 12,000,000 chaldrons." As a London chaldron is nearly 27 cwt., that quantity is equal to about 16,200,000 tons weight.

Mr. Taylor's estimate of the consumption of coal in Great Britain is given in the following form:—

	Tons.
The annual sale of coals carried coastwise, from Durham and Northumberland, is	3,300,000
Home consumption, say one-fifth	660,000
Total	3,960,000
Which quantity supplies about 5,000,000 persons; and, supposing the whole population of Great Britain to be 15,000,000, this must be trebled	11,880,000
Consumed by iron-works, say 600,000 tons of metal, to produce which requires at least four times the quantity of coal in making even pig-metal; and the extraordinary consumption in the mines of Cornwall, &c.	3,000,000
Consumed in Great Britain	14,880,000
Exported to Ireland, say	700,000
Total tons, exclusive of foreign exportation	15,580,000

The export of coals from the Tyne and the Wear amounted, in 1828, to about 3,200,000 tons, and the consumption on the spot to about 660,000 tons. In 1838 the quantity exported by sea from Newcastle alone was 3,004,953 tons.

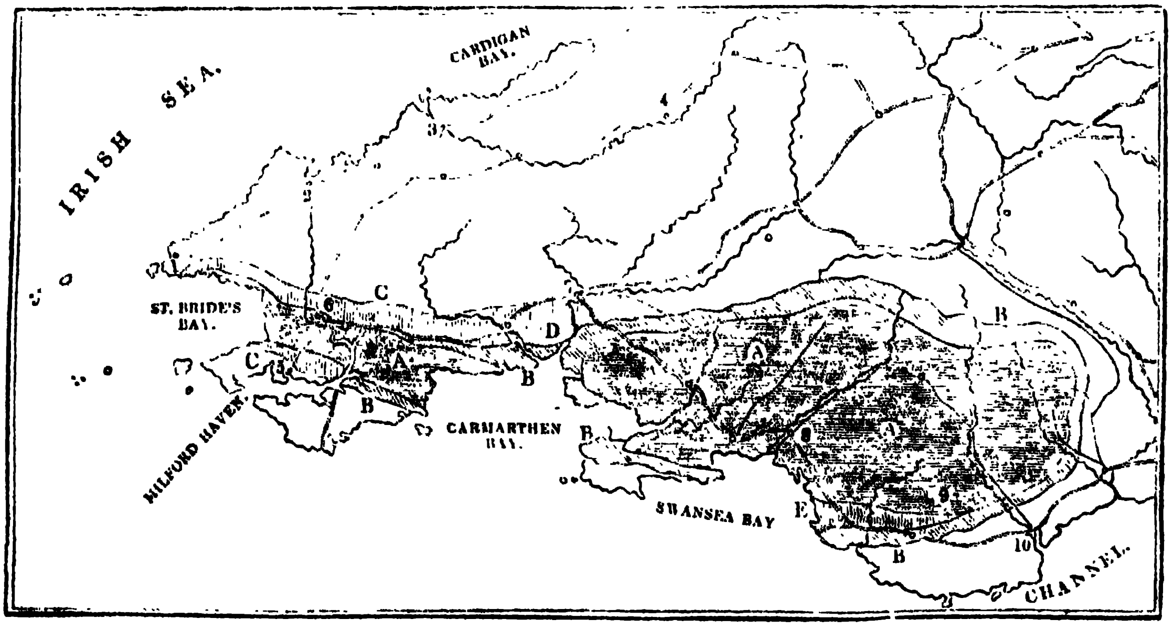
So vast a consumption leads to the inquiry, "what, at this rate of annual excavation, will be the probable duration of this coal-field?" This question occupied a great deal of the attention of the Committees of both Houses of Parliament, already spoken of, and there was a very wide difference in the answers which they received. Mr. Taylor being asked by the Lords' Committee if he had formed any calculation of the extent, produce, and duration of the Durham and Northumberland coal-fields, gave in the following statement, which he said, however, was only to be considered as an approximation:—

	Sq. Miles.
He estimates the Durham coal-field, south of the Tyne, to embrace an area of	594
The Northumberland field	243
	837
And he considers that of this there had been excavated	105
Leaving, in 1829	732

	Tons.
Then estimating the workable coal strata at an average thickness of 12 feet, the contents of one square mile will be 12,390,000 tons, and of 732 square miles	9,069,480,000
And deducting one-third part for loss in working, and from disturbances in the strata ..	3,023,160,000
There remain	6,046,320,000

Dr. Buckland, however, considers the estimate of Mr. Taylor much exaggerated. Mr. Sedgwick is also of opinion that Mr. Taylor's estimate is too great. He has assumed that there is a continuous thickness of 12 feet of workable coal over the whole area of 732 square miles; but all experience, both of this coal-field and of every other, is unfavourable to this assumption, for not only are the coal-seams extremely variable in thickness, but they are equally so in quality, as we have already shown. Mr. Bakewell, in his "Introduction to Geology," calculates that the coal-field now under consideration will not last above 360 years. All these calculations, however, have reference only to the best qualities of coal,—to those which can be raised at an expense sufficiently low to enable them to be sold at a remunerating price in competition with other coals.

It appears to be very clearly made out that all those parts of the country which are now supplied with fuel from the Northumberland and Durham mines will continue to enjoy that advantage for the next 400 years; and there is still a store



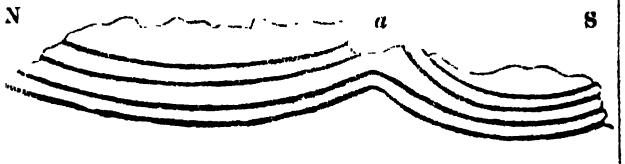
A, A, A. The coal-field, tinted with horizontal lines.
B, B, B, B. Limestone, tinted with lines sloping to the right.
C, C. Slate, tinted with perpendicular lines.
D. Old red sandstone, tinted with dotted lines.
E. New red sandstone, tinted with perpendicular waving lines.

1 St. David
2 Fisgard.
3 Cardigan.
4 Lanbedr.
5 Milford.
6 Haverfordwest.
7 Neath.
8 Caermarthen.
9 Llantrissent.
10 Cardiff.

in reserve far greater than there was in the whole of the North of England field before a single fire was lighted by its produce. This extensive repository is in the coal-field of South Wales.

The geographical position of this vast deposit of the coal-measures will be seen by the annexed Map. It lies in a great basin of the carboniferous limestone (O, Diagram, p. 235) which rises from under the coal strata nearly all around the limit of the coal-field. In a part of Pembrokeshire the limestone is wanting, and the coal strata rest upon slate (Q) which is inferior to the limestone, and, near Narbeth, they are in contact with the old red sandstone (P) which lies between the slate and the limestone. In a part of the southern boundary in Glamorganshire the coal-measures are separated from the limestone by a detached deposit of strata of posterior formation to them, and therefore lying upon them, viz. new red sandstone (K), and lias limestone (I. *f*).

The coal-measures within this limestone basin lie in a trough shape, being deepest towards the middle, and rising up towards the outer limits, the ends of the several strata *cropping out*, that is, appearing successively at the surface. They do not, however, form one uniform sweep or inverted arch; for there has been a partial upheaving of the strata, so that a section across the field from Bridgend, due north, would present the following appearance :—



There are thus two basins, the one to the north, the other to the south of a high ridge *a*, which runs from Aberavon half a mile north of the Avon by Cefn Eglwysillan, two or three miles north of Caerphilly, a little beyond which it disappears. In the northern basin, which is by far the more extensive, the strata are much less inclined than in the southern basin; for in the former the dip of the strata is generally under 10°, while in the latter it is often 45° and upwards. The whole coal-field is traversed by *dikes* or *faults*, generally in a north and south direction, which throw all the strata from 300 to 600 feet up or down. On the western termination of the basin, in St. Brides Bay, the strata are both vertical and twisted in every possible direction.

Mr. Conybeare makes three great divisions of the seams in this coal-field—the lower, middle, and upper series; and he assigns to them, respectively, the average thickness of 35, 15, and 10 feet, making altogether 60 feet of workable coal. Martin, who described this coal-field, makes them amount to 95 feet; and Mr. Conybeare thinks that Martin does not overstate the amount, provided all the seams be taken into the account. But Mr. Conybeare's calculation only includes the workable coals, and he considers that those seams cannot be worked with profit where it is necessary to go lower than 1200 feet, for beyond this the expense of drainage, &c., becomes enormous. Keeping the same considerations in view, Mr. Conybeare makes the following estimate of the area occupied by the coal-seams :—

For the Lower Series,	525	square miles, at	35	feet thick.
„	100	„	17	„
Middle Series,	360	„	16	„
Upper Series,	64	„	10	„

This, it is calculated, after deducting one-half for loss and for what has been already worked, will amount to about 11.423,750,000 tons; and taking the annual consumption of all England at 15,000.000 of tons, the provision of good coal in the South Wales Basin is sufficient for 760 years. Taking all that remains in the Northumberland and Durham coal-fields, and all the other coal-fields of England together at three times that amount, we have a supply of good coal, which, at the present rate of consumption, would last above 3000 years.

The coal-fields of Scotland, although very productive, are confined to a limited space. Nearly all the valuable mines are in the Low Country, between the Highlands on the north and the range of slate mountains which run in a north-east and south-west direction across the island in the South of Scotland. The capital is very abundantly supplied with excellent qualities of coal brought from a distance of only a few miles, and delivered in Edinburgh at from 9*s.* to 12*s.* per ton. Glasgow is surrounded with collieries, and is supplied at even a cheaper rate than the capital; and to this profusion of fuel not only Glasgow but Paisley, and the neighbouring great manufacturing towns, owe, in a great degree, their origin and prosperity. The mines in the counties of Fife and Clackmannan also produce very fine qualities of coal.

The coal formation of Scotland is found in the county of Antrim, on the opposite coast of Ireland. The collieries of Ballycastle, on the north coast of Antrim, formerly sent from ten to fifteen thousand tons to market yearly, but they are now greatly fallen off. In the eastern part of the county of Tyrone, at Coal Island and Dungannon, a coal-formation occurs associated with that variety of limestone which is usually found underlying or alternating with the coal-measures in Scotland and England.

Coal has been discovered in 17 counties of Ireland. The coal district of the province of Munster, according to Mr. Richard Griffith, is greater in extent than any in England. It extends over a part of the county of Clare, over a considerable portion of the counties of Limerick and Kerry, and a large part of the county of Cork. But none of the coal-beds of this province, with the exception of those in the county of Clare, belong to the same geological period as the coal-fields of England and Scotland: in place of lying above the carboniferous limestone (O, Diagram, p. 251), they lie under it, and are interstratified with the old slate rocks (A), the lowest in the whole series of the secondary strata. The quality of the coal too is quite different from either the English or Scotch coal, being that variety called anthracite, which burns without flame, and approaches to the nature of charcoal. It is chiefly used for burning the limestone of the adjoining districts; and the most considerable collieries, those of Dromagh, have yielded 25,000 tons per annum, at from 10*s.* to 15*s.* per ton. The district of Clare belongs to the true coal-measures (M), but they are chiefly the shales, sandstones, and sandy slates, coal being of very rare occurrence, as far as discoveries have yet been made, and when found it is of very indifferent quality. Mr. Griffith is of opinion that coal of a bituminous quality is very extensively distributed over the eastern part of the province of Connaught, particularly in the counties of Leitrim and Roscommon. In the province of Ulster, besides the collieries in the counties of Antrim and Tyrone, coal has been met with in the counties of Fermanagh, Monaghan, and Cavan, but not to any great extent. The province of Leinster contains the true coal-measures, lying above the carboniferous limestone, in the county of Carlow, and in Queen's County, and in the county of Kilkenny, from whence it stretches some way into the county of Tipperary. The great deposits are around Castlecomer in Kilkenny, and Killenaule in Tipperary, and both these have been extensively worked; but, according to Mr. Weaver, in his account of the Killenaule district, the coal of that field, and of the other portions of the Leinster coal-tract, is wholly of the nature of anthracite, and of a thin stratified structure.

Coal is found in many parts of the continent of Europe. One of the most considerable deposits is that of Belgium, where, in the province of Liege, the coal-formation extends from Thon near Namur to the confines of the province of Limburg, along the Maas for 33 miles, and with a breadth of about 8 miles. Continuing in a north-east direction from Liege, we find another coal-field between Aix-la-Chapelle and Dusseldorf, the principal collieries being in the neighbourhood of Eschweiler. The coal is of excellent quality, and is extensively worked. Farther on, in the same direction, we come upon a very extensive coal-field in the valley of the river of Ruhr, in Westphalia. It is above 35 miles in length, and 17 in breadth, and the measures contain above 160 different seams of coal, varying in thickness from six inches to seven feet, of which about 80 are worked.

Coal has been found in many other parts of Germany, particularly in Saxony, Bohemia, and Upper Silesia; and in those places it is almost invariably surrounded by manufactories. It has been found in more than 30 departments of France. Coal is also abundant in the British Colonies and in the United States of North America. On the eastern side of the Appalachian system of mountains, the coal-formations are found as far south as Richmond, in Virginia. The most celebrated mines at present worked are near Pittsburg, in Pennsylvania, on the east side of the Appalachian Mountains.

Iron.

Next to coal, iron is the most important of the minerals of the United Kingdom. The total amount of coals raised annually in Great Britain and Ireland cannot be less than 20,000,000 of tons; and taking 7*s.* a ton as the average price at the pit's mouth, we have a total value of 7,000,000*l.* The gross quantity of iron produced by the furnaces of Great Britain has been calculated to amount annually to about 700,000 tons; and the value of *pig-iron*, as it is technically termed,—that is, iron in its rudest state, before any other labour has been expended upon it beyond what was necessary to extract the metal from the ore,—at a market price of 5*l.* per ton, gives a total value of 3,500,000*l.*

The term metal is applied to those mineral substances which exhibit, when freed from combination with foreign ingredients, the following properties:—They are impenetrable by light, even when beaten out into plates or leaves of extreme thinness, and are therefore said to be opaque; they have that peculiar shining lustre which we term metallic; they are combustible, but at various degrees of heat: they are good conductors of heat and electricity, that is, heat and electricity pass rapidly through them; and they are, for the most part, heavy when compared with other bodies, and are thus said to have a high specific gravity. This last property, however, is not universal, for some are so light as to swim on the surface of water; but all the metals known in common life are heavy bodies, the lightest of them being nearly seven times as heavy as water, bulk for bulk. There are three other distinctive properties of metals, which, however, are not common to all of them, and vary in degree: *malleability*, or the property of being capable of being hammered into thin plates or leaves; *ductility*, or the property of being capable of being drawn out into wire; and *tenacity*, or the property of supporting a heavy weight without breaking. Metals are, moreover, *fusible*, that is, are capable of being melted by heat, but at different degrees of temperature, some of them being liquid at the ordinary temperature of the air,—such as mercury or quicksilver,—others requiring the strongest heats that we are capable of exciting in furnaces before they will soften.

The number of metals hitherto discovered amounts to forty-two, but those which are used in the metallic state in the business of common life are eleven, viz., gold, silver, mercury, iron, copper, tin, lead, platinum, bismuth, zinc, and antimony. Specific gravity is the property which has been determined with the greatest degree of precision. An equal bulk of distilled water, at the temperature of 60°, is taken as the standard of comparison, and is represented by unity, or 1.

Platinum..	20·98	Silver....	10·47	Tin	7·29
Gold	19·25	Bismuth..	9·82	Zinc	7·10
Mercury ..	13·56	Copper...	8·89	Antimony ..	6·70
Lead	11·35	Iron	7·78		

All these metals are found to stand in entirely different orders, when we arrange them according to their respective specific gravities, fusibility, malleability, ductility, and tenacity, as appears by the following table, in which the metal possessing the property in the highest degree stands first in the column.

SPECIFIC GRAVITY.	FUSIBILITY.	MALLEABILITY.	DUCTILITY.	TENACITY.
Platinum	Mercury	Gold	Gold	Iron
Gold	Tin	Silver	Silver	Copper
Mercury	Bismuth	Copper	Platinum	Platinum
Lead	Lead	Tin	Iron	Silver
Silver	Zinc	Platinum	Copper	Gold
Bismuth	Antimony	Lead	Lead, Bismuth,	Zinc
Copper	Silver	Zinc	Tin, Zinc, and	Tin
Iron	Copper	Iron	Antimony cannot be drawn out into wires.	Lead
Tin	Gold	Bismuth and Antimony are brittle.		Bismuth and Antimony are brittle.
Zinc	Iron			
Antimony	Platinum			

We have no thermometer to measure high degrees of heat with exactness. Chemists have for that purpose sometimes used an instrument invented by the ingenious Wedgwood, who, having found by experiment that fine clay contracts equally by increase of heat, contrived an instrument which he called a Pyrometer (from *pyr*, Greek for fire,—and *metron*, measure); but from the difficulty of always finding clay of the same quality, the principle was not capable of being generally adopted in practice. An instrument has very lately been invented by Mr. Daniel, from which more correct measurements will be obtained.

Mercury remains liquid much below the greatest degree of cold known in our climate; tin, bismuth, lead, zinc, and antimony are fusible at a red heat; iron requires a very high temperature, and platinum one far more intense, before they can be melted. Mercury is only solid at a cold 72° below the temperature of freezing water. Iron has so great a degree of tenacity, that a wire not thicker than 0·787 of a line will support 550 pounds weight; while gold, which is infinitely more malleable and ductile, if drawn into a wire of the same diameter, will not support more than 150 pounds.

No process with which we are acquainted can resolve metals into elements still more simple. It is possible, however, that future discoveries will show that they are compound substances.

With the exception of gold, silver, platinum, and copper, it is rare to find any of the metals in a state of purity, or, as it is called, *native*. They are usually found in combination with oxygen, sulphur, or acids; and occasionally two or more metals are combined, when they form what is called a *native alloy*. When united with oxygen, they are said to be in the state of *oxides*; when with sulphur, they are called *sulphurets*; and when with an acid, the name of the acid is brought forward: thus, when lead is found in combination with sulphuric acid, it is said to be in the state of *sulphate of lead*. But in all these states there is usually a great mixture of earths. Metals so combined with foreign ingredients are said to be in the state of *ore*. Ores have very frequently a bright metallic lustre,—are often found in beautiful regularly formed crystals, like salts; but in most cases they would be undistinguishable by a common observer from an ordinary stone. It has happened that roads have, for a length of time, been mended with what was thought to be common stone, but which was afterwards discovered to be a metallic ore of great value.

Metals have been found in all the stratified and unstratified rocks; but they are met with in greatest abundance in the inferior strata, and occur chiefly in what are called mineral veins, which are cracks in the continuity of the rock, filled up and branching through it.

The metal is separated from the other mineral substances with which it is in combination, by a series of artificial processes. This art of obtaining metals in a state of purity, technically called *metallurgy* (from the Greek *metallum*, *mine*, and *ergon*, work), forms a most important department of chemical science.

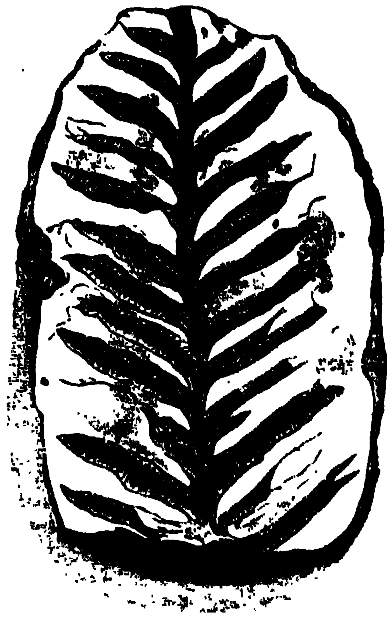
Iron has not been found as a native mineral, in a pure state, except in very small quantities. Some rare specimens of it are met with occasionally in the cabinets of mineralogists. But huge masses of malleable iron have been found in different parts of the earth, lying upon the surface of the ground, or partially imbedded in it; the most remarkable of which are those which were found in Siberia and in South America. The Siberian mass is described by Professor Pallas in his 'Travels in different Parts of the Russian Empire,' in the year 1772. It was discovered in 1750 by a peasant, on the top of a mountain, in the interior of Asiatic Russia, in the district of Krasnojarsk (lat. 56, long. 92, E.), on the borders of the river Yenissei, quite detached from any other mineral substance at all resembling it. It weighed 42 poods, which is equal to 1512 lbs. The South American mass was found in the jurisdiction of Santiago del Estero, 800 miles north-west of Buenos Ayres, and was estimated as equal to 13 tons, or 29,120 lbs. All these masses of meteoric iron, as they are called, are totally distinct in composition from any ore of iron found in the earth: they have all a great similarity of composition one to another, and contain a proportion of nickel, a metal of great rarity. There is every reason to believe that they belong to that class of bodies called meteoric stones, or aërolites, which, from time to time, fall upon the earth. A mass of iron of this description was actually seen to fall from the air at Agram, in Croatia, in 1751, which had the appearance of chains welded together. Further particulars relative to meteoric iron will be found in an article in the 'Penny Cyclopædia,' under the word AEROLITES.

The *ores* of iron are numerous, but many of them form only objects of interest to the mineralogist. There are about eight different kinds of these ores which occur in sufficient quantities to pay for the expense of erecting furnaces to work them, in order to extract the metal. The ore from which nineteen-twentieths of the iron manufactured in the United Kingdom are obtained, is that kind commonly called argillaceous, or clay-ironstone. It is of various colours—grey, brown, and bluish-grey; and to an uninstructed person would not appear different from an ordinary stone, except on account of its greater weight. The iron exists in clay-ironstone in combination with oxygen gas, in that proportion which chemists designate the *protoxide*, and with carbonic acid gas, and mixed with small quantities of earths, carbonaceous matter, and sometimes sulphur. Dr. Colquhoun gives the results of an analysis of the composition of nine different varieties, from which it appears that the ironstones vary considerably in quality. One hundred grains of the several ores were found to contain of

Protoxide of iron . . .	from 35	to 53	per cent.
Carbonic acid gas	26	35	,,
Silica (the pure earth of flints). .	1	20	,,
Alumina (the pure earth of clay) .	¾	8	,,
Lime	2	8¼	,,
Magnesia	1¼	6¼	

besides minute quantities of carbon, sulphur, and the metal called manganese. The specific gravity of the ores varied from 2·80 to 3·50; distilled water of the same bulk being 1·00.

The great deposits of clay-ironstone are in the coal-measures; that is, in the strata of shale, clays, sandstones, and slates, which alternate with the layers of coal. Clay-ironstone occurs frequently also in some of the superior strata, between the chalk and the coal-measures, and sometimes, though more rarely, in the tertiary sedimentary deposits which lie above the chalk (Diagram, p. 235). The ore is often met with in thin continuous strata, but it seldom happens, when found in the coal-measures, that there is only a single stratum of it; there are usually several strata,—from 10 to 40 in the same tract of country,—the thickness of them varying from half an inch to sixteen inches; and they generally present, at the same time, differences in their chemical composition. Clay-ironstone occurs frequently in detached nodules, imbedded in the strata of clay or shale, varying in size from that of a bean to five feet in diameter, and half these dimensions in thickness, having, for the most part, a flattened form. They often lie together in one place, at regular distances, forming an almost continuous bed; but more usually the nodules are scattered promiscuously through the clay, with their longer diameter parallel to the lines of stratification in the coal-measures. In weight they vary from an ounce to upwards of a ton. The size of the nodules most commonly found is about a foot in the longest diameter. They frequently contain shells, and impressions of plants similar to those met with in the shale of the coal-measures. The following specimen is from Derbyshire:—



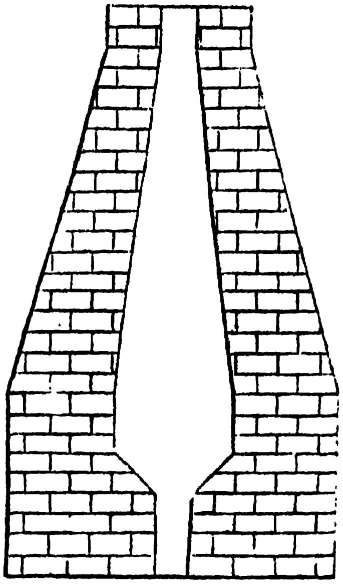
A portion of a plant which Martin, in his 'Petrificа Derbiensia,' considers to be allied to the Fir Tribe.

All the appearances which clay-ironstone exhibits, whether in layers or in nodules, show that it is not an igneous production, but that it was deposited by water. But the nodules are in no degree analogous to the rounded stones found in many of the strata, which are fragments of rock, the angles of which have been worn off by their being rubbed against each other in running water, like the stones in the bed of a river. The particles of the clay-ironstone must have been suspended in the fluid mass of mud that afterwards hardened into clay or shale, and must have separated from it, and collected together in the spheroidal nodules by some internal chemical action similar to that which takes place in the masses of clay, mixed with ground flints, prepared for making fine pottery and china. When these are allowed to stand unused for some time, it often happens that the particles of the powdered flint separate from the clay into detached, hard, stony nodules.

The metal is contained in the ironstone in combination with oxygen gas and carbonic acid gas. To separate it from these and the other foreign ingredients which enter into the composition of the ore constitutes the operation called *smelting*, which consists in bringing the clay-ironstone in contact, under a very powerful heat, with other substances, which having a stronger attraction for oxygen and carbonic acid than iron has, destroy the combination, and set the iron free.

The ore is broken into small pieces about the size of an egg, and is then subjected to the process of *roasting*, which is performed by making a long oblong pile of the broken ore, with intervening layers of small coal, forming a heap about 30 feet long, 15 feet broad, and five feet high,—sloping at the top like the ridge of a house. There is a thick layer of coal at the bottom, which is kindled when the pile is completed; the whole is gradually ignited, and then left to burn for five or six days, and when cool the ore is ready for the smelting-furnace. The roasted ore has changed its colour from grey to red, brown, or blackish-brown; has parted with its carbonic acid gas, as well as the sulphur, and other inflammable substances it may have contained, and has lost from 20 to 30 per cent. of its weight.

The furnace is usually a square pyramidal tower of strong masonry, or brick-work, from 40 to 50 feet high, similar to the annexed figure :—



When first kindled the fire is made at the bottom of the interior cavity, which is gradually filled with a mixture of ore, coke, and limestone, in the proportions of four of coke, rather more than three of ore, and one of limestone. The heat is urged by compressed air being forced through tubes in the sides into the cavity, by means of powerful bellows worked by a steam-engine. The mixture is in a highly heated state in the upper part of the furnace, and gradually sinks to that part where the heat, urged by the blast, is most intense, and then it becomes in a state of semi-fusion. Here the more complete decomposition takes place; and the mass being now fluid the metal sinks to the bottom, where it is allowed to run out from time to time by opening an aperture left for the purpose. This is *cast-iron*, and the ore yields on an average about 30 per cent. of it. It is conducted into moulds, made with dry sand, on the ground near the orifice, for the various things made of cast-iron,—from vast beams, wheels, and cylinders of steam-engines, to the smallest articles of domestic use; or it is conducted into moulds for the bars of *pig-iron*,—the form in which cast-iron is sold as a raw material. The term "pig-iron" was given by the workmen. The metal is run off into a main channel, which they call the *sow*, and the bars at right angles to it they liken to pigs sucking the teats of the sow. As the ore sinks down a fresh supply is poured in at the top of the furnace, which is kept constantly going, and is never allowed to cool unless for the purpose of repair, or when it is *blown* out, as it is termed, by a stoppage of the works.

The coal is not used as it comes from the pit, but is first brought to the state of coke, or mineral charcoal, which is done by a process very similar to that employed for making charcoal from wood;—the coal being brought to a red heat, in heaps so covered as to prevent free exposure to the air, and thus the bitumen is driven off, leaving a cinder behind like that which remains in the retorts used at the gas-works. The coke serves not only as a fuel for producing the heat, but performs other important functions, for it attracts the oxygen from the ore, and enters into combination with the iron in the state of pure carbon.

The purpose of adding the limestone is to facilitate the melting of the ore, the lime acting the part of a *flux*, as it is termed, from *fluxus*, a Latin word signifying a flowing or streaming. There are certain mineral substances which, singly, will resist the action of the most violent heat, but when mixed together become fusible at comparatively low temperatures. Thus silica, or the earth of flints, is infusible in a very intense heat, but on the addition of a portion of the mineral alkali soda, it melts readily at a low heat, and forms glass. The limestone acts upon the earths of flint and clay, which enter into the composition of the ore, in the same way as the soda acts in making glass from sand, and thus a fluid is obtained; and as the particles in the liquid mixture have free motion, the heavier ones, that is the iron, sink to the bottom, and the lighter earthy matter rises to the top, and floats on the surface of the melted iron, forming what is called "slag." Any one passing by an iron-work must have noticed the heaps of glassy-looking matter of various colours thrown aside as rubbish, which is often used for mending the roads in the neighbourhood :—this is the slag.

An improvement has lately been introduced, which is of immense advantage by materially reducing the cost of the smelting. This consists in sending in a blast of *hot*, instead of cold, air. When a blast of cold air is thrown in, a great part of the heat of the furnace is absorbed by the cold air, and therefore a large amount of the fuel is wasted. Now it has been found by experiment that the coal necessary to heat the air before it is thrown into the furnace is very considerably less than that which is required to afford the coke necessary to heat it after it is thrown in. Some successful experiments have also been made for smelting with the coal, and thus saving the waste of converting it into coke.

Cast-iron, or pig-iron, or crude-iron, for it is known by all these names, contains usually about one forty-third part of its weight of carbon, which it obtains from the coke, or charcoal, in the process of smelting. The quantity of carbon depends a good deal upon the quality of the fuel; and if cast-iron be exposed in a melted state for a length of time to charcoal, and free access of oxygen be prevented, the iron will absorb so much carbon as to be converted into plumbago, or that substance commonly called *black-lead*, of which pencils are made, but which has not a particle of lead in its composition. Cast-iron is neither ductile nor malleable, and it is very brittle, and it melts with such facility at a red heat that it cannot be welded, whereas pure iron is one of the most infusible of the metals. It can be fused to such a degree of liquidity that it may be poured into very minute cavities, as we see by those beautiful ornaments, of the most delicate forms, manufactured at Berlin, and at Sain, near Neuwied, on the Rhine.

To convert cast-iron into malleable or bar-iron, it is again melted in a furnace, and run out into moulds, when the impurities, which usually consist of earthy matter and oxidized iron, rise to the surface, and are taken off. When it becomes solid the process is repeated two or three times, until the iron, when stirred in the furnace, instead of being liquid, clots together into soft, pasty lumps. In this state, moderate-sized masses are taken out and are beaten, under an enormous hammer, moved by steam-power, called the "forge-hammer," into cakes about an inch thick. These cakes are subjected to a strong heat in another kind of furnace, and, when softened, one of them is taken out and beaten into a short bar, which is then welded to another of the cakes, which is beaten out in the same way, and thus by additions the bar is made of the desired length. The whole bar is then put again into the furnace, softened, and again beaten under the forge-hammer; and, when that process is finished, it is common bar or malleable iron. It has now lost all the carbon, oxygen, and earthy ingredients which existed in the cast-iron, and the more complete the separation from these, the better is the iron. In place of being brittle and easily fusible, it has become possessed of great tenacity, ductility, and malleability; and one of the chief tests of its purity is its power of resisting a very violent heat without exhibiting any signs of fusion.

The quality of the iron smelted with coke from clay-ironstone, although greatly improved of late years, is for many purposes much inferior to the best qualities from Sweden, Norway, and Russia. The difference depends partly, perhaps, on the different nature of the best ores in these countries, but chiefly on account of wood-charcoal being used in all the processes, from the first smelting of the ore to its conversion into bar-iron. It is said, however, that, although iron made by wood-charcoal is better for malleable iron and steel, it is not so good for casting as that made with coke.

Previously to the early part of the seventeenth century the ore was entirely smelted with wood. In that part of the southern counties of England called the Weald of Kent, Surrey, and Sussex, the strata contain iron ores of different qualities in considerable abundance; and, where wood was plentiful, there were many furnaces in that district. These were of course abandoned when the cheaper method of smelting with pit-coal was discovered. All the iron made in France at the present time is smelted with wood, the consumption of which has been so great as materially to raise the price of fuel throughout the country.

The discovery of smelting iron with pit-coal was made by one Dudley, about the year 1619; but many years elapsed before it was generally adopted. The manufacture of iron did not rise into very great importance until after the discoveries of Watt in the improvement of the steam-engine, when that power was applied to produce the blast in the furnace; for then furnaces could be erected wherever the ore and the coals were found, although there were no streams of water to impel the machinery. From that time the manufacture has been steadily progressive, and more iron is now made in Great Britain than in any other country of the world. The produce of all the furnaces in the United Kingdom is about 1,000,000 tons.

The great seats of the iron manufacture of Great Britain are, —the Staffordshire, a few miles north of Birmingham, around Walsall, Bilston, and Dudley;—the South Wales, around Merthyr Tydvil, in Glamorganshire, and in the Forest of Dean, on the borders of Wales;—and the Shropshire, in and around Colebrook Dale. But, besides these, there are many considerable works in different parts of Yorkshire and Lancashire. One of the oldest and most extensive establishments is that of the Carron Works, near Falkirk, in Stirlingshire; and there are several in the neighbourhood of Glasgow. Clay-ironstone is found associated with the coal-measures of the Northumberland and Durham coal-fields, but not in sufficient quantity to make it worth while to erect any great works.

In that part of North Lancashire called Furness, and principally around Ulverstone, an ore of iron is found, which is a compound of about 65 per cent. of iron, 30 of oxygen, and a small admixture of earthy ingredients. It is usually of a fibrous structure, and of a red colour, with a semi-metallic lustre, and is called by mineralogists "hæmatite," from a Greek word signifying "blood." It is also called "bloodstone," which is the name by which it is known in the arts; it is used for making burnishing tools, and, when ground to a fine powder, it is extensively employed as a polishing material by most workers in metal. A considerable part of the ore is still smelted with wood-charcoal, and produces a very valuable quality of metal: a great part of the best plate-iron and iron-wire is made from it.

Magnetical iron ore is so called from its being not only attractable by the magnet, but as possessing itself polarity. It is composed of about 70 per cent. of pure iron and 30 per cent. of oxygen; but the ore is seldom entirely free from foreign ingredients. The best Swedish iron is made from this ore, and the most celebrated mine of it is at Dannemora, about 30 miles north of Upsala, which has been worked for more than 300 years. The ore, after being roasted, is put into a furnace, with the requisite quantity of charcoal; but the addition of limestone is seldom necessary, because lime exists already in the ore. "The cast-iron obtained by this process is as white as silver, completely crystallized, extremely hard and brittle, and incapable of being applied to any useful purpose in that state. It is not liable to rust, and, indeed, this is a quality which Dannemora iron possesses both in the state of cast and of malleable iron. It is much less liable to rust than any other kind of iron whatever. This cast-iron is reduced to malleable iron by heating it in a bed of charcoal and oxide of iron, and hammering it out into bars while hot."—(Dr. Thomson.) Another great mine of magnetical iron-ore is in the Mountain Taberg, in Sweden, situated a little to the south of the great lake Wetter, due west from Gothenburg. The uppermost bed of the mountain, which is 370 feet thick, has been wrought for nearly 300 years. There were, in 1812, according to Dr. Thomson, 176 iron mines in different parts of Sweden; but many of them must be very insignificant, as the total produce in that year was only 65,000 tons.

There are a few other ores of iron which are smelted for the purpose of obtaining the metal, the variations chiefly depending on the different proportions of the oxide of iron, and of the earthy ingredients with which it is combined. There are other ores which are applied to different purposes in the arts. One of the most common of these is that which is called "pyrites," which is a combination of the iron with sulphur. The shining metallic bodies resembling brass, frequently seen in common blue roofing-slate, are iron-pyrites. In some situations, especially when found in the coal-measures, this ore is very liable to decomposition by the action of the air and moisture. In the act of decomposition heat is generated, and makes it advance more rapidly. This decomposition is also effected designedly for the purpose of collecting the produce, which is the salt called "sulphate of iron," or green vitriol. The process of decomposition is this: the sulphur combines with the oxygen of the air and of the water, when sulphuric acid is produced (or oil of vitriol, as the old chemists used to call it, and as it is still called in the arts); and the acid thus formed combines with the iron. When the decomposition is effected, the mixture is thrown into water, which dissolves the sulphate of iron; and, by carefully pouring off the clear solution and subsequent evaporations, the green cystallized salt is obtained. Mr. Aikin states that, in the Vale of Conwy, in Caernarvonshire, iron-pyrites is decomposed for the purpose of obtaining the sulphur from it; and that the iron, which is converted by the process into red ochre, is sold for common paint and other purposes. The pencils said to be *red-lead* are made from a soft ore of iron:—that which is called "reddle," or red chalk, is a compound of oxide of iron and the earth of clay; but neither contain lead, any more than the so-called black-lead does.

Copper.

After iron, copper is of all metallic bodies the most generally useful. It is one of the most valuable products of the mines of the United Kingdom. With the exception of the rare metal titanium, it is the only metallic substance of a red colour. Its specific gravity is 8·89. It can only be melted at a very high temperature, but is more fusible than iron; it may be beat into thin leaves, and, next to iron, possesses the greatest tenacity of all the metals, for a wire one eight-hundredth part of an inch in thickness will support a weight of 302 lbs. without breaking. Its hardness is greater than that of either gold or silver; it is the most sonorous of all metals, and is therefore used for making many wind instruments and bells. It is capable of forming alloys with other metals, but in that combination remarkable changes sometimes take place. Thus, when alloyed with tin, which is also a ductile metal, the mixture (bell-metal) is quite brittle; on the other hand, when united with zinc, which is a brittle metal, the mixture (brass) is nearly as ductile as the pure copper.

Copper is found in a state of purity, and also in combination with other mineral substances, constituting a great variety of ores. These may be divided into two great classes: in the one, the copper is combined with sulphur and other metals in various proportions, or with oxygen; in the other class it is in the state of an oxide combined with acids and with water. The following tables show the great variety of composition in the ores of this metal. The figures express the number of grains of the substance at the head of the column which are contained in a hundred grains of the ore.

	Copper.	Sulphur.	Iron.	Arsenic.	Antimony.	Oxygen.
Yellow Copper Ore	30	35	32	..	..	..
Purple do.	61	24	14	..	..	..
Vitreous do.	81	19	..	..	..	..
Gray do.	53	24	23	..	..	..
Arsenical Gray do.	43	10	28	15	..	..
Antimonial do. do.	38	28	8	..	22	..
Red Oxide of Copper	91	..	..	..	..	9

	Oxide of Copper.	Water.	Sulphuric Acid.	Muriatic Acid.	Phosphoric Acid.	Arsenic Acid.	Carbonic Acid.
Blue Carbonate of Copper	69	5	..	..	..	..	26
Green ditto	72	9	..	..	..	..	19
Sulphate of Copper	33	36	31	..	..	..	..
Muriate of do.	73	17	..	10	..	..	..
Phosphate of do.	69	..	..	..	31	..	..
Arseniate of do.	49	35	..	..	..	14	..

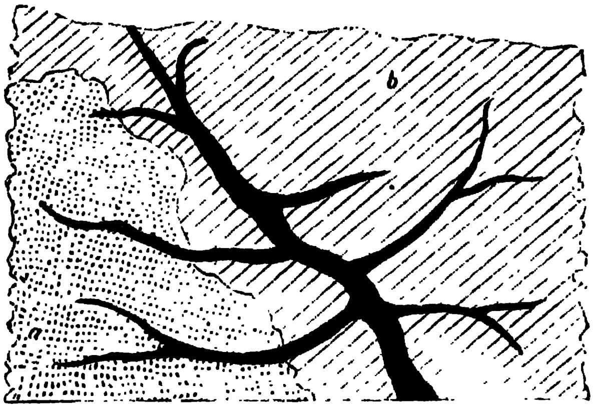
Native copper is of common occurrence, but seldom in large quantities in one spot. The finest specimens are brought from the mines of Siberia, on the eastern side of the Ural Mountains, from Hungary, and Saxony, and very good specimens are occasionally met with in Cornwall. It is found in considerable quantity in Brazil, and also in Japan, and it is obtained rather abundantly in the vicinity of the Copper Mine River, and in other parts of North America.

More than nine-tenths of the copper of commerce is obtained from those ores in which the metal is combined with sulphur and iron, and the yellow copper ore is the most abundant of these. The other combinations of the metal frequently accompany the sulphurets, but are rarely found in sufficient quantity to be smelted by themselves. The quantity of copper contained in the sulphurets is very variable, on account of the intermixture of stony and other foreign ingredients. In some mines the ore does not contain above 3 per cent. of pure copper, and yet it pays for working. The poorer kinds of ore are chiefly sulphurets of iron, or iron-pyrites, containing copper; the richer kinds are sulphurets of copper, or copper-pyrites, mixed with iron and arsenic in different proportions.

A considerable quantity of copper is obtained from springs containing sulphate of copper, or blue vitriol, in solution, which are frequent in copper-mines, or in hills where the sulphuret occurs, the decomposition of the ore by the action of the air and of water changing the sulphur into sulphuric acid, which enters into a new combination with the metal. The copper is obtained by immersing plates of old iron in the fluid: the acid having a stronger attraction for iron than for copper, quits the latter and combines with the iron, leaving the metallic copper on the surface of the iron plates, and it is then scraped off.

The great deposits of this metal occur in the older rocks, both in the sedimentary strata and in the granites, porphyries, and traps; and it has been met with in minute quantity in the lava of existing volcanoes. Cornwall, which is the greatest copper country in the world, is composed entirely of rocks of the primary or oldest transition classes, chiefly slate associated with granite and porphyry. The slate is called *killas* in the country, the granite *growan*, and the name *elvan*, although more particularly given to porphyry, is applied also to any other rock which is found in the killas or granite; so that a fine-grained granite is often called elvan if it traverse the ordinary granite of the country.

The copper ore is found in veins composed of a mixture of the ore with quartz or fluor spar, or both, which occur for the most part in the killas, generally a greenish argillaceous slate, and veins which have been worked in the killas have been often followed into the granite, without any change in their magnitude, richness, or general composition, although for the most part a change takes place in the quality of the vein when it passes from one rock into another. If we suppose a vertical section to be made of a country composed partly of granite, and intersected by mineral veins, it would present an appearance similar to the following figure,



where *a* is the unstratified granite, and *b* the strata of slate, in which the continuity is broken by veins filled up with various minerals, different from either the slate or the granite. It is evident that the substance of the veins is of posterior formation to the rocks in which it is contained. It frequently happens that one series of veins intersects another series, where one vein has evidently been formed after others, because it intersects them.

The courses of mineral veins are extremely irregular, and hence the hazardous nature of mining adventures.

Copper ore is also found in the mountain limestone, as in Staffordshire (O, diagram, p. 235), but very sparingly. In England none of the superior strata contain more than occasional traces of copper ores, but in Germany there are beds of what is there termed *kupferschiefer*, or copper slate, which occupy the same position in the order of stratification as the red marl, K, of the series of sedimentary deposits in England, and from that slate a considerable quantity of copper is obtained.

The county of Cornwall alone produces more of this metal than all the other mines of Europe put together; but copper-mines were wrought in Germany and Sweden several centuries before those of Cornwall were opened. There are no remains whatever of the operations of the Romans in any of the copper-mines of Cornwall. The copper-ore of Cornwall prior to the year 1700 was principally, if not wholly, derived from the tin-mines, or at least from mines which were originally wrought for tin. Copper was largely imported in the early part of the eighteenth century, and it was not until about the year 1720 that this country supplied itself with this metal from its own mines. The copper money of Great Britain was not coined from British copper until the year 1717. It was not till the latter end of the seventeenth century that mines were first set at work in Cornwall purposely for copper. At the revolution of 1688 the crown gave up all claims to the ores of what were termed the *ignoble* metals, and in consequence of this brighter prospect of realizing profits, large capitals became invested in mining speculations in Cornwall soon after that period. They have been carried on with great enterprise and increasing skill from that time, especially in later years, during which vast improvements have taken place, especially in the machinery employed for raising the ore and carrying off the water from great depths.

The greatest proportion of the mines of Cornwall lie between the town of Truro and the Land's End. The most important are in the neighbourhood of Redruth. There are three systems of veins, or lodes, as they are called in the country: the oldest and the most numerous run in a direction from east to west; the next series run from south-east to north-west; and the third series, which are only known to be of a more modern formation because they cut through the others, have also an east and west direction. These veins for the most part incline at a considerable angle. "The east and west veins usually dip to the north at an angle of about 70°; but sometimes at so low an angle as 30°. Scarcely an instance has occurred of a vein having been found to terminate downwards, or, as the miner's phrase is, being cut out in depth. When the working of a mine is given up, it is in general either on account of its poverty or of the expense of sinking to a greater depth being more than the produce would justify. The average width of these metalliferous veins is not more than three feet, and they are considered to be large if they are six feet wide. Instances, however, occur of veins of nine and twelve feet; and in one mine, called Relistian Mine, there were parts of the vein which were thirty feet wide. The veins of more modern formation are, in general, wider than the oldest east and west veins. Their length is very various: the east and west veins have been traced for seven miles, but they do not extend in general farther than from one to two miles. Many remarkable phenomena occur at the intersection of the different series of veins, such as the older vein becoming richer on each side of the intersecting vein, and sometimes becoming richer on one side and barren on the other.

There are at present about eighty copper-mines worked in Cornwall, some of which yield no more than about half a ton of pure copper annually, while others yield above 1900 tons. The mine of Dolcoath has workings at 1368 feet below the surface. The Consolidated Mines are by far the most extensive in any part of Europe.* They are situated in the parish of Gwennap, about three miles east of Redruth, along the brow of a range of steep hills, and occupy an area of about 800 acres. The site is about 300 feet above the level of the sea, and the bottom of the deepest shaft is 1340 feet below the level of the sea, and 1652 feet from the surface, being the deepest excavation in Great Britain. The principal lodes are from 2 to 8 feet wide, with branches from them varying from 12 to 18 inches in width. There are vertical shafts, or pits, sunk upon the different lodes, which in the aggregate exceed 20 miles of perpendicular excavation over the whole area, and the aggregate extent of the levels, or ways, driven in all directions from these shafts, is about 47 miles. "The enormous power of machinery, employed on this concern for drainage and other purposes, greatly exceeds any similar combination in the whole world, and forms an unparalleled example of mechanical skill and ingenuity as applied to mining on its most extensive scale. This machinery consists of 8 very large steam engines, employed in pumping, their dimensions varying from 90 to 65 inch cylinders,—a smaller engine, of 30-inch cylinder, used for the same purpose;—8 steam-engines, of about 20-inch cylinder, employed in drawing ore and vein stuff;—being altogether 17 steam-engines, of which 4 are the largest ever erected. There is also a water-wheel, 42 feet in diameter, employed in pumping; another, 30 feet in diameter, for driving machinery; and 4 smaller ones, for stamping and other purposes; altogether 6 in number. Several horse-whims are also employed. Calculating the force constantly exerted by this stupendous accumulation of mechanical power, when working at a moderate rate, it may be stated as equivalent to the work of from 900 to 1000 horses; which, however, is by no means the extent of its power. Supposing that it were possible to employ animal power, three relays of horses would be required in the 24 hours, besides an extra stock for casualties, making the actual number of horses to which the engine-power at the Consolidated Mines is equivalent at least that of 3000 horses. It should, however, be taken into account that horse-power, so termed by engineers, considerably exceeds the strength of an ordinary horse (according to some authorities by one-third); and, bearing this in mind, it will not perhaps be too much to say that the engine-power employed in these mines is nearly, if not quite, equal to the work of 4000 horses; and, [illegible] Great Britain. The amount of human labour is proportioned [illegible] the number of persons [illegible] independent of the [illegible] who are employed in an indirect manner from these mines. The ore is chiefly that variety called "yellow copper-ore," and the average quantity of fine copper annually produced [illegible] to 1831, about [illegible] tons, or about one-ninth of the total quantity of this metal annually furnished by Great Britain. Since then the quantity has considerably increased.

Several of the Cornish mines are worked under the sea; as in the parish of St. Just, where the entrance to them is almost on the very edge of the precipitous termination of the land, and the workings extend from the vertical shaft far under the bed of the ocean. Botallock mine has been wrought under the sea from a very remote period.

The ore, when brought to the surface, is separated into different heaps, according to its richness, and then the lumps of pure ore are broken into fragments, about [illegible] nut, and that which is mixed with other substances is broken still smaller and thrown into sieves, which are shaken under the surface of water, whereby the lighter impurities are washed away and the heavier ore remains. This operation of preparing the ore for the furnace is however modified in many different ways, according to the nature of the ore.

The ore so prepared is sold to the smelters. Nearly all the copper-ores in the United Kingdom are purchased at present by ten private mercantile establishments. A list is published annually at Redruth, in Cornwall, of the produce of the mines and of the amount purchased by each of these companies, and in the year ending the 30th of June, [illegible], their purchases amounted to 1,031,722*l*.

The ores are conveyed from Cornwall to Wales to be smelted, on account of the abundant supply and cheapness of coal there, the vessels which take the ore come back loaded with coal for the steam-engines of the mines. The principal smelting-works are situated on the coast of Glamorganshire, from Swansea to Neath, and chiefly near these towns.

The component parts of the copper-ores, when brought to the smelting works, are copper, iron, and sulphur, and from 60 to 70 per cent. of earthy matter; besides these, there are often admixtures of tin and arsenic. The average produce in pure copper may be stated at about 8 per cent. The processes in a copper-smelting work are simple, consisting of alternate calcinations and fusions. Two kinds of furnaces are used, of different constructions, the one for calcining, the other for melting. The various qualities of ore received from the mines are mixed and smelted together, for it is found that ore of one quality acts as a flux for that of another quality. The processes are conducted in the following order:—

1. The ores are calcined.
2. The calcined ore is melted.
3. The metallic mixture from process 2 is calcined.
4. The calcined coarse metal from process 3 melted.
5. The purer metal from process 4 calcined.
6. The metal calcined in process 5 melted.
7. The copper from process 6 roasted.
8. Coarse or blistered copper refined.

In the calcining processes the volatile matter, viz. the sulphur, is expelled, and the iron is oxidized, the general fusibility of the mass being thereby increased. In the melting processes the metallic oxides and earthy matters, being specifically lighter, float on the surface, and are skimmed off as slags.

The charge of the calcining furnace, in process 1, is from three to three and a half tons of ore, and the calcining lasts twelve hours, the mass being frequently stirred to expose fresh surfaces. In the 2nd process the melted matter is let out at a hole opened in the side of the furnace into an adjoining pit filled with water, when it becomes granulated, that is, falls in the form of coarse grains, which are collected in a pan at the bottom of the cistern. In this state it contains about one-third part of copper, the rest being iron and sulphur. The granulated metal is subjected to calcinations and fusions, alternately, as above described, until it comes to the 7th process, or roasting. The ore has now been advanced so far towards refining as to contain from 80 to 90 per cent. of pure metal. It has been run off from process 6 in bars, which are piled up in another furnace, and exposed to the action of strongly heated air, the temperature being gradually raised to the melting point, and thus the expulsion of the volatile impurities is completed. This operation lasts from 12 to 24 hours, and towards the end of it the metal is fused, and runs off into moulds formed in beds of sand. These bars, when cooled, are found to be covered with black blisters, and this is what is called blistered copper, which is subjected to the last process, or the refining. In this the bars are put into the refining furnace, and gradually melted; the surface of the metal is covered with charcoal; and a pole, commonly of birch-wood, is then held in the liquid metal, which causes considerable ebullition, owing to the evolution of gaseous matter; and this operation of poling is continued until the refiner ascertains, by various trials, that the copper is in the proper state of purity and malleability. When he is satisfied of this, the melted copper is taken out in iron ladles, coated with clay, and poured into moulds, forming cakes twelve inches by eighteen, the form required by the manufacturer for ordinary purposes. When the copper is to be used for making brass, the metal is poured from the ladle into another ladle pierced in the bottom with holes, and supported over a cistern of water, when the copper consolidates in coarse grains like shot. At many smelting-houses there are rolling-mills, where the cakes of copper are manufactured into sheets and sheathing for ships.

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* [illegible] information respecting these remarkable mines we are [illegible] Barr, a gentleman in the office of the chief [illegible] Taylor, Esq., through whose medium we

There are copper-mines in other parts of the United Kingdom besides Cornwall; but their aggregate produce is less than one-fifth of that of Cornwall alone. The most remarkable of all the copper-mines out of Cornwall was that called the "Parys Mine," near Amlwch, in the northern part of the island of Anglesea. It was in 1768 that the vast treasure was discovered, which added immense wealth to the family of the Marquis of Anglesea, and raised to vast opulence the family of the Rev. Mr. Hughes, who at the time of the discovery lived upon a small curacy in the eastern corner of Anglesea, but was part proprietor of this mountain. "The quantity of copper," says Mr. Hawkins, "which this single mine poured into the market for twelve years in succession, from 1773 to 1785, made such an impression as to lower the price of that metal throughout Europe, and to threaten the ruin of all the poorer mines of the kingdom." About the year 1785 the annual produce of the mine amounted to 3000 tons of copper, and in that year the aggregate produce of all the mines of Cornwall was not more than 4434 tons. Ten years afterwards, however, it had fallen off more than a third; and in 1817 it did not yield more than 350 tons. Shortly afterwards, by the able management of Mr. Vivian, the produce was raised to more than 600 tons; and in 1826 was as much as 758. It has since again declined; for in 1832 it did not yield more than 575 tons.

Some trifling deposits of copper-ore have been worked, from time to time, in Caernarvonshire, Lancashire, Westmoreland, Cumberland, the Isle of Man, and the shire of Kirkcudbright. Copper was obtained a few years since in Mainland, one of the Shetland Islands, in a bed of limestone.

Copper has been got to a small amount in Ireland.

The total produce of pure metal from all the copper-mines of the United Kingdom, in the year 1833, was as follows:—

	Tons.
In Cornwall	11,185
Swansea Sales, the ore being brought from Ireland, Wales, &c.	1,158
Devonshire .	307
A[illegible]ea	575
C[illegible]erland and other places, smelted in Staffordshire and Lancashire . . .	120
	13,345

The copper exported from the United Kingdom in the year ending January 5, 1834, was rather more than 7811 tons.

Copper is found in several parts of the Continent of Europe. The oldest copper-mine known was that of Rammelsberg, near Goslar, in Saxony, which was worked in the tenth century. There are several copper-mines in the Harz mountains, and in Bohemia; but the supply of this metal in Germany is derived chiefly from the mines at Mansfeld in Thuringia. The ore is found in a bituminous marly stone, which forms a subordinate stratum, that is, one of the several series of strata which constitute the New Red Sandstone Formation (K in the diagram); and it is called by the German miners *Kupferschiefer*, which means copper-slate. The mines are still worked, but the produce does not exceed 430 tons of copper annually. At the end of the seventeenth century copper-mines were worked in Hungary and Transylvania, and they continue to yield a considerable quantity. There are copper-mines in France, at St. Bel and Chessy in the Lyonnois, and in a few other places; but the whole produce of pure copper in France in the year 1832 was only 270 tons.

Swedish copper has been long celebrated: the most famous mine is that of Fahlun, close to the town of the same name, about 130 miles north-west of Stockholm. It began to enter into competition with the mine of Rammelsberg, in Saxony, in the twelfth century. It was visited by Dr. Clark in 1799, and by Dr. Thomson in 1812, both of whom have given a minute description of it. The ore forms veins in primary mica slate, and is a mixture of copper pyrites and iron pyrites, but is extremely poor; for, according to Dr. Thomson, it does not yield more than 1½ per cent. of pure copper, a quantity so small as one would have thought would not have repaid the expense of working. About the year 1661, which was the time of its greatest prosperity, it yielded 2500 tons of copper annually; but at the time of Dr. Clark's visit, it had fallen to from 400 to 500 tons. The mass of copper-ore appears to have been in the form of an enormous cone with its point or apex downwards, and the excavation, which is funnel-shaped, is like the crater of a volcano. The sides of this crater being variously coloured by exhalations of sulphureous vapours from the mine, and by the action of the air on the minerals composing it, together with the volumes of smoke issuing from it, increase the resemblance, and, at the time of Dr. Clark's visit, it was not unlike the Solfatara in the neighbourhood of Vesuvius. The crater was principally caused by an accidental falling in of the ground. The base of the conical mass of ore lying nearest the surface was first worked: the galleries for extracting the ore were necessarily extensive, and the props for the support of the roofs of the different larger excavations or chambers, as the miners call them, consisting often of valuable ore, were left as slender and as few in number as possible. This, however, had been pushed too far, for they proved insufficient to support the superincumbent weight, and in the year 1666 the whole of the upper part of the mine fell in, leaving an open crater-shaped cavity 240 feet deep. From the bottom of this cavity various openings lead to the different galleries, most of which are very lofty, and to different places of further descent, of which some are 1200 feet from the surface. The smoke and vapours were caused by a considerable part of the mine being on fire. This was occasioned a few months previous to Dr. Clark's visit by some miners, who were attempting to steal ore, and being disturbed they left their torches behind them; these set fire to the timbers, which communicated to the pyrites, and it was found impossible to subdue the combustion, which rolled forth volumes of sulphureous vapours to such an extent, that this part of the mine was shut off from the rest. In the deepest recesses of the mine there were stables for horses, in which these animals were kept in total darkness for months together.

Russia possesses copper-mines of some importance in Siberia, on the east side of the Ural Mountains, and also around Orenburg at the southern extremity of that chain.

Armenia produces a large amount of copper, and the ores are extremely rich. They are situated in a mountainous distria few days' journey to the south-west of the port of Trebizond on the southern shore of the Black Sea. Pyssonel states the produce of these mines, in the year 1762, to have been above 6500 tons, and they are said to be extremely productive at the present time. A great portion of the Armenian copper has been manufactured for centuries at Erzerum, and transported down the Euphrates to Bagdad and Bussora, as well as by the usual land route into Persia; the consumption of this metal in the fabrication of copper utensils, which are of immemorial usage, is very great in every part of Asia.

Copper-mines are worked in Mexico, Chili, and Brazil, from which countries the produce is imported into Spain. Copper-ore has lately been brought from Chili and Brazil to be smelted at Swansea. There are mines of this metal also in China and Japan, from whence it is brought to the islands of the Indian Archipelago. It has been wrought to a small extent in the island of Sumatra, and more recently in Borneo.

Copper is employed, in combination with other substances, in a great diversity of ways in the arts. Its most extensive uses in this way are, when alloyed with other metals, especially zinc, to form brass, in the proportion of three parts of copper to one of zinc; and tinsel, pinchbeck, and Dutch gold are also compounds of copper and zinc in different proportions. When combined with from one to five per cent. of tin it becomes harder, and this is the usual composition of the very ancient copper tools and weapons, before iron and steel came into common use. With a larger proportion of tin and a little zinc it forms bronze and bell-metal, and also the metal of which brass cannons are made. When alloyed with nearly half its weight of tin, and with a small admixture of arsenic, brass, and silver, it forms an extremely hard compound capable of receiving a high polish, which is used for the reflectors of telescopes. In our gold coins 38 grains of pure copper are added to every ounce of pure gold, the effect of which is to make the gold harder. This is what is called standard gold, and in larger proportion it forms the gold commonly used in jewellery. Standard silver contains one-twelfth part of copper, and it has also the effect of rendering the silver harder and more workable.

Blue vitriol, or Roman vitriol, is a compound of oxide of copper and sulphuric acid, or vitriolic acid, as it used to be called. Verdigris is a compound of oxide of copper with acetous acid, or vinegar; and the blue paint called verditer is a combination of oxide of copper, carbonic acid, water, and lime.

Tin.

In a pure state, and recently melted, tin has a bright shining surface, like silver, which soon becomes tarnished by exposure to the air. Its specific gravity is nearly eight times that of an equal bulk of water. It has very little tenacity, and cannot be drawn out into wire; but it is very malleable, being capable of being beaten out into leaves thinner than writing-paper. It is the most fusible of all the metals, except mercury, and melts at 442°. None of the metals used extensively in common life are so sparingly disseminated over the globe, and the chief supply of it is nearly confined to Great Britain and the Indian Archipelago.

Tin is never found *native;* and there is only one species of ore, if we except one variety which is known only as a rare specimen in the cabinets of mineralogists. The ore from which we obtain the metal is an oxide, containing 75½ parts of tin, and 21½ parts of oxygen, in 100 parts of the ore. It is very frequently found in beautiful crystals, which are sometimes transparent, but generally of a dark-brown colour, with a brilliant shining surface. It is one of the oldest of the metals, as regards its geological position; for it is found only in the primary rocks. It traverses granite and primary slate in slender veins, and these veins are among the oldest which have been formed in the crust of the globe; for they are often crossed, but never themselves cross other veins. In Cornwall these veins are found in the granite and slate, and in the porphyry or elvan; and the ore is also found in layers interposed between, and parallel to, the strata of slate, in which last case it is said to occur in *floors.* These layers, however, are not continuous over a large extent, but are insulated, and within narrow limits. They are evidently formed, in many cases, by the union of several small veins; but sometimes tin-floors occur together, lying one above the other, and parallel to the strata in which they are, as it were, interstratified, as if they had been contemporaneous deposits with the slate. This, however, may be a deceptive appearance; for there are other instances of substances seemingly in regular alternations of strata with sedimentary deposits, which more extended observation proved to have originated from subsequent injections from below, between layers of pre-existing rocks. Tin-floors are also found in the granite and elvan; and these rocks, in the opinion of the most experienced geologists, are undoubtedly of igneous origin in the interior of the earth.

There are two systems of tin-veins in Cornwall, both running nearly east and west; but the oldest dip to the north, while the newer, which traverse the former, dip to the south. Their width varies from a few lines to several feet, and in their length there is the same diversity: some have been traced as much as two miles. The same vein is continually changing its dimensions in point of width. Those which are found in the slate are usually much more productive of metal than those which traverse the granite; and they are very commonly met with at the junction of these two descriptions of rocks, and usually pass from the one into the other without any change taking place in the nature and contents of the vein, although there are not unfrequent exceptions to this. Quartz is the most common substance of the vein, and the ore is disseminated through it; but the vein-stone often consists of other minerals. In most of the veins of Cornwall tin is found nearer the surface than copper. Besides the veins now found traversing the rocks, another abundant supply of tin in Cornwall is from what are called the "*stream-works.*" In the lower parts of many valleys there are accumulations of gravel, sand, and other alluvium, and in these vast quantities of rolled pebbles and sand, composed of a very pure tin-ore, are met with. That ore is dug up, and such mines are called "stream-works," because streams of water are employed to wash the gravel and sand, and to separate the ore from the other substances with which it is mixed. One of the most extensive of these is that called "Happy Union," in the valley of Pentuan and parish of St. Austell, where, for many ages, a vast quantity of tin has been obtained. The valley is from 300 to 600 feet wide, and contains an accumulation of gravel, sand, and clay, to the depth of 60 feet in many places. The gravel consists of fragments of granite, similar to that of the adjoining hills, all considerably rounded by attrition, together with fragments of slate, which have not been much water-worn. The tin-ore lies, for the most part, in the lowest bed of this alluvial deposit, and in the form of coarse sand, and of pebbles of all sizes, up to 10 lbs. weight. The sand is the most valuable, because the larger pieces have often copper, or iron, or some vein stone attached to them. No animal remains have been found in the lower part of the deposit, but roots of oak-trees have; and in the upper beds, wood, nuts, leaves, and shells, together with the bones and horns of deer and oxen, are not of unfrequent occurrence: the shells are of identical species with those now living in the adjacent seas. At a depth of 20 feet from the surface, a piece of wood fashioned by art was once met with. Similar alluvial deposits are met with in other parts of Cornwall. The deposits of stream tin-ore are of different ages, for in none of the lowest have any organic remains been found; but they have been met with in the superior parts, and some of these accumulations are of comparatively recent date, for, at Treloy, brooches, rings, and coins of rude workmanship were found in a bed of tin-ore of small thickness.

The principal tin-mines of Cornwall are in the south-west part of the county, in the parish of St. Just, where the country consists principally of granite; but there are several productive mines in the slate in other places. Several tin-mines are worked under the bed of the sea. The most important stream-works are in the neighbourhood of St. Austell and St. Just, and the most productive are those of Pentuan above referred to.

The early history of the working of the Cornish tin-mines has occupied the attention of many writers; and in a volume of the Transactions of the Cornwall Geological Society there is an interesting essay on the subject, by Mr. Hawkins. Tin, of the produce of Cornwall, was a staple article of Phœnician commerce for many centuries, and was conveyed by them to the eastern shores of the Mediterranean. The Romans worked tin-mines in Cornwall, for there are well-authenticated instances of the discovery of Roman coins in old tin-mines and stream-works; and a block of tin of a singular form, with an inscription in Roman letters upon it, was found in the parish of Veryan. In the time of Diodorus (who wrote under Augustus) there was an active trade in tin. It was carried from Cornwall to the coast of France, and thence it was taken on horseback to the mouth of the Rhone (Diod. v. 22).

With regard to the tin-trade of Cornwall in the middle ages, Mr. Hawkins remarks that there appears to have been at all times a steady demand for it in the markets of the East, from the invariable usage in those countries of tinning the inside of their kitchen utensils, which are made of copper; that a great increase of demand took place in the eighth century, when bells for churches came into general use in western Europe, for they were then cast of a great size. The mines were very productive in the thirteenth century, for Richard Earl of Cornwall at that time possessed immense wealth, which he derived from his mines. Towards the end of the fifteenth century, the introduction of brass guns for field artillery created a new demand; as did the invention of pewter in Italy, where it had come into common use in the early part of the sixteenth century.

The ores found in veins and that of the stream-works are subjected to different processes of smelting. That obtained from *mine tin* is always of inferior quality, owing to the mixture of other metals; it is known in commerce by the name of common or *block* tin, and the quantity produced forms a large proportion of the whole that is brought to market. *Stream tin* produces a superior metal, known by the name of grain tin, which is principally used by the dyers, and for the finer purposes. The first operation after the mine tin is brought to the surface is to break it into pieces the size of a man's fist, and to reject such portions as do not contain more ore than will repay the cost of *dressing*, the first great operation in the smelting process. As the ore is sometimes so scattered through the vein-stone as to be scarcely perceptible to the eye, the workman from time to time reduces a small quantity to an impalpable powder; and by repeatedly immersing it in water, and shaking it on a shovel, the heavier metallic particles separate from the lighter impurities, and in that way the quality of the ore is ascertained. The ore, roughly broken, is taken to the stamping-mill, which consists of several heavy upright wooden beams, shod with iron, and raised successively by wheels set in motion either by a steam-engine or water-wheel; and the ore, passing beneath these beams in succession, as it becomes smaller and smaller, and through sieves of various bores under the surface of water, is at last brought to the state of coarse powder. This powder is subjected to a great variety of washings and siftings, in all of which the purpose is to separate the ore from the lighter stony substances with which it is united. Being sometimes mixed with other metallic ores, which, from their specific gravity approaching so near that of the tin, cannot be removed by any process of washing, and these being for the most part decomposable by heat, the pounded ore is roasted in furnaces, with a moderate and regular fire; after which it is again washed, and the tin-ore, which is unalterable by that low heat, is obtained in a greater degree of purity. It is now in a state to yield from 50 to 75 per cent. of metal, and it is then sold to the smelter, who determines its value by assaying a sample. The smelting-furnaces hold from 12 to 16 cwt. of ore, which is mixed with certain proportions of coal and slaked lime. The ore is an oxide of tin: the carbon of the coal unites with the oxygen, and thus the metal is set free, the lime acting as a flux to assist the melting. The heat employed is such as to bring the whole mass into fusion, and is continued for seven or eight hours. The liquid tin is run off into an iron kettle from a hole in the bottom of the furnace, leaving the slag or impurities behind. The tin is ladled into moulds, to form plates of a moderate size, to be refined by an after process. The impurities still adhering are generally iron, copper, or arsenic, which are separated by fresh meltings and exposure to heated air; and then the pure tin is cast into granite moulds capable of containing somewhat more than three cwt. each. These are called *blocks*, and are sent, according to the provisions of the stannary laws, to be stamped (or *coined*, as it is termed) by the Duchy officers, and it then comes to market under the name of *block tin*. The *stream tin ore*, after being dressed by poundings and washings, is carried to a blast furnace, where, being mixed with wood-charcoal, it is subjected to a very powerful heat urged by bellows moved by an engine. The melted tin is received in an iron kettle, under which there is a gentle fire, and it is kept in agitation by plunging pieces of charcoal which have been soaked in water into it, and which by means of an iron tool are kept at the bottom of the kettle: the water in the charcoal is rapidly converted into vapour, and so the agitation is kept up, and any impurities in the tin are thrown up to the surface and skimmed off; and then the metal, which is peculiarly brilliant in appearance, is removed by ladles into moulds to form blocks. This is *grain tin*.

The *Stannaries* (so called from *stannum*, Latin for tin) are courts in Devonshire and Cornwall for the administration of justice among the tinners. They are of very ancient date. The privileges of the tinners are confirmed by a charter of Edward I. There is a volume containing a collection of the "Laws of the Stannaries." These laws enter into great detail, and regulate all the proceedings in the working of the mines, in the smelting houses, and in the buying and selling of the metal.

The amount of tin coined in Cornwall and Devon in the year ending the 30th June, 1834, was 4180 tons, consisting of 23,586 blocks of common tin, and 1190 blocks of grain tin. The quantity of British tin exported generally exceeds 2200 tons, of which nearly one-half goes to France alone, about a fourth to Italy and the Levant, about an eighth to Germany and Holland, the same amount to Russia and other parts of the Baltic, and about 120 tons to Spain and Portugal.

The only part of Europe besides Great Britain in which tin is now obtained in any quantity is Germany. There are mines in Bohemia, Saxony, and Silesia, and the produce is sufficient to supply a large proportion of the demand for this metal in that part of Europe. There are some mines of high antiquity in Spain, in Gallicia. It was not known to exist in any part of France till the year 1809, when it was discovered not far from Limoges, in the department of Haute Vienne; and in the year 1817 it was accidentally found in the south of Brittany, not far from the mouth of the river Loire. There is a remarkable uniformity of structure between that part of Brittany and the tin district of Cornwall on the opposite side of the Channel. The country between the mouth of the Loire and Piriac is composed of granite and slate, and it is at the junction of these rocks that the tin-ore is chiefly found. The continued large importations of tin from England into France show that this discovery has not yet been attended with any great results.

The largest quantity of tin that has yet been found in any part of the world is, after Cornwall, in the Indian Archipelago. It has been met with as well on the continent as in the islands, from about 8° north to 5° south latitude, and from 98° to 107° of east longitude. It is found in Siam, and in numerous parts of the Malayan peninsula, and in the islets on its coast, and in the island of Borneo; but the richest mines are in the island of Banca, which lies off the south-eastern part of Sumatra. The ore is wholly stream-tin, and occurs in alluvial deposits; it is seldom followed below 30 or 40 feet deep, and the beds of ore frequently lie within three or four feet of the surface. The mines are exclusively worked by Chinese, under the authority of the government, and they deliver the metal at a fixed rate. The smelting is conducted by a very simple and rude process, and yields from 50 to 70 per cent. of pure metal. In 30 years after the discovery the mines yielded no less than 3870 tons, and in the most prosperous times they are said to have produced about 3500 tons annually. The mines are in the northern and western parts of the island. The higher mountains of Banca are of granite, and the stream-tin is found in gravel composed of granite and other primary rocks. The principal demand for Banca and Malay tin is in China, which is probably not less than 1000 tons in the year, and Bengal takes off about half that quantity: the remainder goes to America and Europe.

The principal consumption of tin is in the preparation of tin-plate, which is iron coated with tin. This manufacture was unknown here until about the year 1665, when it was brought into this country from the tin-works in the *Erzgebirge*, a range of metalliferous mountains which separate Saxony from Bohemia, by an Englishman of the name of Yarranton. He met with considerable obstacles in introducing it, and it was not carried on to any extent for nearly half a century afterwards. The manufacture was first established on a large scale at Pont-y-Pool, in Monmouthshire. The process of making tin-plate may be thus briefly described. English bar-iron of the finest quality is used; it is rolled into plates of different degrees of thickness, and cut into plates of various dimensions for the different kinds of tin-plate commonly used. The iron plates are first *cleansed* by immersion in diluted muriatic acid,—then *scaled* by exposure to a strong heat, when scales of oxide of iron fall off,—rolled a second time, immersed in diluted sulphuric acid, and then well rubbed with hemp and sand. The object of these processes is to obtain a smooth, uniform, and purely *metallic* surface,—that is, without any oxide adhering to it, by which the particles of iron and tin may be brought into more direct contact, and so adhere more strongly. An iron pot is nearly filled with equal parts of block and grain tin, and when this is melted a quantity of tallow is added, sufficient to cover the fluid metal to the depth of four inches. This is done to prevent the oxidation of the tin. The prepared iron plates are dipped into the melted tin, and a coating of it firmly adheres to the iron; and after some further manipulations, to render the tinned surface as entire and uniform as possible, th cess is completed.

Vessels for cooking and other purposes, which are made of iron or copper, being liable to be acted upon by the air, water, acids, fat, and other substances, must be tinned; and this is done by first rubbing the clean surfaces of the vessel with sal-ammoniac, heating them, pouring in melted tin, and revolving them, so that the tin may come in contact with every part of the iron or copper. Pins, which are made of brass wire, are whitened by being boiled in a solution in which tin is dissolved by the acid of cream of tartar. Pewter, when of the best quality, is composed of 100 parts of tin, eight of antimony, four of copper, and one of bismuth; but the common sorts contain a large proportion of lead. Bell-metal is a compound of copper and tin; and the solder used by plumbers and glaziers is composed of three parts of lead and one of tin. The silvering of looking-glasses is a mixture of tin and mercury. When beaten into thin leaves it is called tin-foil,—a substance extensively used in the arts. Combined with oxygen tin forms a white powder called *putty*, which is used for polishing metals and glass, and is the basis of the finest white enamel. A solution of tin in nitro-muriatic acid is extensively used in dyeing as a mordant, being one of those substances which, having an affinity both for the cloth and for the dye, fixes the colour: it is an essential ingredient in producing the finest scarlet and crimson in woollen cloths. A compound of sulphur and tin yields beautiful golden-coloured scales, very soft and glossy to the touch, readily rubbed between the fingers, and when the colour is brought out by a little friction having a fine golden metallic lustre: this is what is called *Mosaic gold*, and it is extensively used for bronzing, and by japanners for *gilding* ornaments on tea-trays and other wares.

Lead.

Lead is one of the most useful of mineral substances, and one of the most valuable products of the mines of Great Britain. Its specific gravity is more than eleven times the weight of an equal bulk of water. It is malleable, and with ease may be reduced into very thin plates; but it is liable to crack under the hammer. It is capable of being drawn into wire 1-126th part of an inch in thickness, but its tenacity is very low; for a wire of that diameter breaks with a weight a little exceeding eighteen pounds. As it possesses no elasticity, it is incapable of compression, and differs in that respect from all the other ductile metals, which diminish in volume, and, consequently, increase in density, under the hammer; but lead has the same specific gravity when it is simply melted as when it is beat or rolled out into plates. It is the least sonorous of all the metals. It melts at 612°, or a heat less than three times that of boiling water. When first melted, or when cut, it has a brilliant lustre. This shining surface is soon tarnished by attracting oxygen and carbonic acid from the air: but this coating of carbonated oxide protects it from further change. Water has no action upon it; and hence its usefulness for cisterns and pipes. When exposed to the continued action of a stream of hot air, it rapidly acquires oxygen, and is converted into a substance which is called "litharge."

Lead has been sometimes found in the pure, or native, state. It is one of the metals which is found in the greatest variety of combinations: but there is only one kind of ore which is very abundant; the rest are chiefly known as objects of interest to the mineralogist. The common ore is a combination of eighty-six parts of lead and fourteen of sulphur, and is called usually by the name of *Galena*, or sulphuret of lead. It very often contains silver in sufficient quantity to pay the expense of separating it. That of the north of England contains from two to twenty-four ounces of silver to the ton, and the average quantity is eleven ounces and a half. The galena of the mine Huel Pool, in Cornwall, yielded sixty ounces; of Guarnock Mine, near Truro, seventy ounces; and a mine near Beeralstone, in Devonshire, yielded galena so rich as to give 135 ounces of silver to the ton.

In geological position, lead is most abundantly met with in the lower strata of the secondary sedimentary deposits, especially in the carboniferous limestone. (O, in Diagram.) It is found also in considerable quantity in the grauwacke, clay-slate, mica-slate, and even in gneiss, which is the lowest of the stratified rocks. (Q and R of Diagram.) It is found also, but more rarely, in the unstratified rocks, both in granite and in trap; but in all the instances that have been mentioned, the granite and trap have always been associated with stratified rocks containing lead-ore. It is occasionally found in the coal-measures (M), but not hitherto in any of the strata above the coal. Galena, next to pyrites, or sulphuret of iron, is the most common of the metallic ores, and it is found in almost every country of the globe.

England produces annually nearly three times as much lead as all the other countries of Europe put together. The chief mines are in the north of England, in Derbyshire, North Wales, and Devonshire, on the borders of Cornwall. The great seat of the north of England mines is in that high district, around the mountain of Cross Fell, where the counties of Northumberland, Cumberland, Westmoreland, the North Riding of Yorkshire, and Durham, meet. The mines first become of importance on Muggleswick Moor, on the borders of Northumberland and Durham, about twenty-seven miles from the east coast of Sunderland, and at Blanchland, on the river Derwent, a little to the west of Muggleswick; and they continue to the summit of Cross Fell. Aldstone Moor, in Cumberland, and Dufton, in Westmoreland, are important places in this district; and there are mines in Weardale, Teesdale, Allendale, and Askendale. Mr. Forster reckons that, in this part of England, there are no less than 175 lead-mines, which either have been or are now worked. The prevailing rock is the carboniferous limestone. It is associated with strata of sandstone and slate; and there are about twenty different beds of limestone which the miners distinguish by distinct names. The series of strata at Aldstone Moor, according to a section given by Mr. Winch, consists of about sixty alternations of slate, sandstone, and limestone, in 159 fathoms, or 954 feet. The whole are covered by the coarse sandstone commonly known by the name of "millstone grit." The above dimensions are only a part of the strata where they are bored through in sinking the well or shaft of a mine; but if we include the whole deposit from the upper surface of the Old Red Sandstone, on which the series rests, we obtain a total thickness of nearly 2800 feet. Beds of trap, one of which is particularly designated the "Whin Silt," a miner's term, are interposed between the strata in several places. The lead-ore occurs in veins, which traverse the strata in various directions, and in many irregular ways, sometimes being very slender, at other times extending to great widths. They are usually of larger dimensions in the limestone than in the slate and sandstone: one vein, which is seventeen feet in a limestone stratum, contracts to three feet in the sandstone below; and they are always much richer in ore, even in proportion to their magnitude, in the limestone. That part of the series which is richest in lead does not exceed 300 feet. The mineral substances which accompany the ore, forming what is called the "vein-stone," are calcareous spar, fluor spar, quartz, and a few others of less frequent occurrence. The mines in this part of England have yielded of late, on an average, about 25,000 tons of lead annually, which is more than one-half of the whole produce of Great Britain; and of that amount nearly a third is obtained from the mines belonging to Greenwich Hospital. In the year 1831, 28,000 tons were raised from the mines of Cumberland, Northumberland, and Durham.

The lead-mines of Derbyshire are situated in the north-western part of the county, and extend as far south as the neighbourhood of Matlock. That district is almost wholly composed of the carboniferous limestone, which is surrounded on all sides by the millstone-grit that lies above it. The limestone is very much disturbed in its stratification, and is intersected by dikes and beds of trap. The ore is galena; but it contains in general too little silver to repay the cost of extracting it. Farey, in his 'Mineral Survey of Derbyshire,' enumerates no less than 280 mines which had been, or were then (1811), working.

Next in importance to the mines of the north of England, those in North Wales, in Flintshire, and in Denbighshire, are the most productive: a small quantity is raised in Shropshire, and the neighbourhood of Tavistock, in Devonshire. Lead-ore has been found in different places in the Isle of Man, but the mines are now almost given up. It is found in the counties of Down and Wicklow in small quantities. The lead-mines of Scotland are more productive. The most important are those situated in the grauwacke, or slate-rocks, composing the range of hills which runs quite across the south of Scotland, from St. Abb's Head, north of Berwick, and in that part of it called Lead Hills and Warlock Head, on the borders of the counties of Lanark and Dumfries, north-east of Sanquhar. These mines were discovered in the year 1540, and have yielded large revenues to the proprietors ever since. The veins traverse the grauwacke rock from north to south, and vary considerably in thickness, some of the principal veins being from four to ten feet in width. At one time the Susannah vein exhibited a mass of solid ore no less than fourteen feet thick. Some years ago, the mines of Lead Hills and Warlock Head together yielded about 2400 tons annually. Lead has been wrought at Tyndrum, in Argyleshire, where the ore is found in a bed of quartz; and also at Strontian, in the same county. The produce of the different lead-mines in Scotland was at one time estimated to amount to 4800 tons, but it has of late years fallen off very considerably. Mr. Taylor, in his 'Records of Mining,' gives an account of the quantity of lead raised from the mines of Great Britain in the year 1828, which, he says, was the result of a careful inquiry among those best acquainted with the subject. It is as follows:—

	Tons.
North of England mines	26,700
Derbyshire and Shropshire . . .	4,800
Devonshire and Cornwall	2,000
Flintshire and Denbighshire . . .	12,000
Scotland	1,000
Ireland, Isle of Man, &c.	500
	47,000

Five years prior to this, the whole amount was only 36,000 tons.

The ore, after having been properly broken, and separated as much as possible from the vein-stones, is roasted in a furnace, with a small quantity of coal, in order to expel the sulphur, and any other volatile matter. After undergoing this process, it is taken to a blast furnace, of a peculiar construction, called an "ore-hearth," where, by a powerful heat, the ore is melted, and the metal separated from the dross, or slag, which swims on the surface; the mass being frequently stirred, to facilitate the separation, for 12 or 15 hours. There are various manipulations during the process, which, together with the supply of fuel and of lime, are modified according to the nature of the ore, and require much skill on the part of the workman. The slags, still containing a portion of lead, are subjected to another process of smelting with coke in another furnace. In all these operations a considerable quantity of the ore is volatilized, and condenses in the chimneys of the furnaces: this, which is called "smelters' fume," is collected from time to time, and the lead is extracted from it.

The separation of lead and silver is effected by the different degrees of attraction which the two metals have for oxygen, the silver remaining unaltered when exposed to the air of the atmosphere at a high temperature; whereas lead, under the same circumstances, becomes rapidly converted to a protoxide:—that is, becomes a new substance, composed of lead and a minimum quantity of oxygen, which is commonly known by the name of "litharge." The lead to be refined is placed in a furnace so constructed as to admit of the ready separation of the litharge as it is formed; it is melted and farther heated till it becomes of a bright red, and then the blast of air is made to pass over it. This not only supplies the oxygen, but is sufficiently strong to sweep away the oxide as it is formed, by which means a fresh surface of the melted lead is exposed: more lead is supplied as the operation proceeds, and at the end of the process a cake of silver is found at the bottom of the furnace. The lead is recovered from the litharge by mixing it with coal, and exposing it to a strong heat: the carbon of the coal has a stronger attraction for oxygen than lead has, and therefore separates it from the litharge, leaving the pure metal, which is run out into moulds to form the pigs, or bars, in which shape it is brought to market.

The mines of Derbyshire were wrought in the time of the Romans. A block of lead was discovered on Cromford Moor in the year 1777, with the following inscription:—"The Emperor Cæsar Hadrianus Augustus, from the mines of Lutudarum." Another block was met with near Matlock in 1783, the inscription of which is as follows:—"Lucius Aruconius Verecundus, from the mines of Lutudarum." Lutudarum was a Roman station in Derbyshire, probably at or near Chesterfield.

Besides the various purposes to which it is applied in its pure state, lead is employed in many different ways in combination with other substances. The sulphuret of lead is made use of, without any previous preparation, as a glazing for coarse pottery. The protoxide, or litharge, enters largely into the composition of flint-glass, which it renders more fusible, transparent, and uniform. Combined with another proportion of oxygen, it forms *Red Lead*, which is also used in the manufacture of flint-glass, and as a paint. *White Lead*, which is so extensively used as a paint, is a combination of the metal with oxygen and carbonic acid. *Sugar of Lead*, which is used very largely in several manufactures, particularly in calico-printing, and also in medicine as an external application, is a compound of lead and acetous acid, or vinegar. It is so called from having a remarkably sweet taste: it is well known, as well as most of the combinations of lead, to be a deadly poison.

Of the 45,000 tons of lead which may be estimated as the average produce of the mines of the United Kingdom, about one-third is exported. In the year ending January 5, 1833, the exports were as follows:—

	Tons.
In pigs, and rolled, and shot .	12,181
Litharge	433
White lead	652
Red lead	396
Lead ore	236
Total	13,898

The countries to which that quantity was exported were,—

United States of America . . .	4,896
East Indies and China	2,980
Russia and Sweden	1,951
Germany	631
Brazil	526
West Indies	511
British North America . . .	480
The Netherlands	456
Cape of Good Hope and Africa .	435
New South Wales	223
Italy and the Levant	226
Spain and Portugal	226
Other places in lesser quantities .	351
Total . .	13,898

In the year 1809 the market-price of lead in bars was 31*l.* 3*s.* per ton; and, according to the tables given by Mr. Macculloch in his 'Commercial Dictionary,' the average price for the 10 years ending 1810 was 27*l.* 11*s.* 6*d.* It rose to 31*l.* in the year 1814, when speculations at the close of the war raised the value of many of our native products; but the average of the 10 years ending 1820 was 23*l.* 6*s.* 0*d.* A sudden fall took place five years afterwards, for in 1825 the price was 25*l.* 6*s.*, and the following year it fell to 19*l.*; and it kept falling till 1832, when it was down to 13*l.* 10*s.* This extraordinary fall was occasioned by a sudden increase of supply from the lead-mines of Spain. These mines are situated in Andalusia, partly in a range of mountains to the North of Jaen, near Linares, but chiefly in another range which lies between Jaen and the city of Granada, and on the southern slope of them. Bowles, who wrote in the year 1776, describes the mines to the north of Jaen to have been worked by the Moors, and says that the mountains are pierced by shafts in all directions: that there are two great veins which pass through a granitic rock which vary considerably in richness; and that at one time one of the mines produced in a year more than all the lead-mines of Saxony together had done in 12 years. But it is the mines in the mountains of Granada from which the recent great supply has been obtained. The ore lies near the surface, and is therefore obtained without much exercise of skill, or expense of labour and machinery. Mr. Witham says that "the metalliferous limestone of the south of Spain is so rich in galena as to furnish, even in the present imperfect state of mining in that country, about 20,000 tons of lead annually." France has some lead-mines in Brittany, Languedoc, Alsace, and other parts of her territory, but imports the greater part of her consumption, and chiefly from Spain; England having sent only 70 tons to France out of the 13,898 exported in 1832. There are many lead-mines in Saxony, Bohemia, Silesia, and other parts of Germany. The mines of the United States are in Pennsylvania, Massachusetts, and in the State of Missouri; those in Missouri are the richest in the United States.

Gold.

This metal possesses above all others the qualities of utility and beauty, without any deleterious property. It has been in all times regarded as the most precious of the metals, and among the more civilised nations has been the standard of value for other commodities. Its peculiar rich hue is well known, and it is the only metal of a yellow colour. In its pure state it is as soft as tin, and is very flexible, but it is capable of receiving a high lustre by polishing with a burnisher, although inferior in brilliancy to steel, silver, and mercury. It possesses little elasticity or sonorousness. Its specific gravity is 19·30. In *malleability* it exceeds all other metals; for one grain of it can be beat out into a leaf so thin as not to exceed 1-280,000th part of an inch in thickness, and which will cover 56 square inches; in this state, notwithstanding the high specific gravity, it will float in the air like a feather. A coating of gold, which is calculated to be only one-twelfth part of the above thickness, is produced by another process: if a silver wire be covered with gold it may be drawn out into wire of still greater fineness, and retain a coating of gold; and one grain of gold will in this way coat a surface of wire about two miles and three-quarters in length. In *ductility* it also exceeds all other metals. In *tenacity*, however, it stands only fifth in order in respect of that property when compared with other metals: a wire one-thirteenth of an inch in thickness will not support a greater weight than 150 lbs., whereas iron wire of the same diameter will sustain a weight of 550 lbs. without breaking. It is not a perfectly opaque body like all the other metals, for gold leaf transmits a green light; as may be conveniently observed by laying a leaf between two thin plates of colourless glass, and holding it between the eye and a strong light. It is less fusible than silver, and more so than copper: Mr. Daniel estimates its melting point to be at a heat equal to 2016° of Fahrenheit's scale. It is the most perfect of all conductors of heat. Thus, while the conducting power of a rod of porcelain is represented by a velocity of 12, of lead by 179, of iron by 374, the velocity of gold is 1000. Gold may be exposed for ages to air and moisture without undergoing any alteration; and a quantity of it has been kept for 30 weeks in a melted state in a glass-house furnace without the loss of a single grain, and without any change in its nature. But if a small portion of it be intensely heated by electricity, or by the oxy-hydrogen blow-pipe, it burns with a greenish-blue flame, and is dissipated in the form of a purple powder.

Gold is found, almost universally, in the native or metallic state; but it is seldom quite pure, being generally alloyed, in greater or less degree, with other metals, and usually with silver, copper, or iron. The Prussian chemist Klaproth found a native gold from the Altai Mountains to contain 36 per cent. of silver; and Professor G. Rose of Berlin, by more recent analysis, has found a specimen from the same district to contain 38 per cent., and another from Hungary nearly 39 per cent. He found the gold of the Ural Mountains to contain from 2 to 15 per cent. in general, and one variety nearly 99 per cent. of pure gold. Boussaingault has found the native gold of Colombia to contain from 2 to 36 per cent. of silver. It is found in veins in the primary and other sedimentary rocks, and also in the unstratified rocks that are associated with these, such as granite, porphyry, and hornblende rock; and sometimes also in the more ancient of the secondary strata. The vein-stone in which the gold occurs is generally quartz. In Transylvania small quantities of an ore have been found in which gold is in combination with a considerable proportion of the rare metal *Tellurium;* and there is a kind of iron-pyrites (that is, a sulphuret of iron), not of very unfrequent occurrence, which contains minute scales of pure gold interposed between the laminæ of the pyrites. When gold occurs in veins in solid rocks it is sometimes regularly crystallised. In the splendid collection of minerals belonging to the Russian Prince Demidoff, there are many beautiful crystals of gold from the Ural Mountains. The greatest proportion of this metal is obtained from alluvial soils, or deposites, where the gold is found in scales, grains, and lumps, rounded by attrition. For the sake of convenience we shall call this "*stream-gold.*" It is found in the sand and gravel of the beds of many rivers and smaller streams in most countries of the world; but the chief quantity is met with in extensive alluvial deposites, formed by other aqueous causes than the water of existing rivers. The lumps of gold in such situations are of very various sizes; and masses have been found in the Ural Mountains of 18 and 20 lbs. weight,—in Columbia of 25 lbs.; and one is said to have been found near La Paz, in Peru, of nearly 45 lbs. weight, the value of which, if estimated at 3*l.* 10*s.* per ounce, would be 1890*l.* It is a remarkable circumstance that, in countries which contain deposites of alluvium rich in gold, it has rarely happened that the attempts to find the metal in the neighbouring rocks have been successful.

The usual mode of separating gold from the other materials with which it is combined is by a process called *amalgamation,* which is founded on the property which mercury (or quicksilver) has of combining very readily with gold, and of being easily separated from it again by the application of heat. The ore, broken to pieces and freed as much as possible from stony impurities, is reduced to powder, and made up into a paste with salt and water. Quicksilver in proper proportion is added, and the whole is well beaten and shaken together, and kept at the temperature of boiling water for some days till the union is effected; after which the earthy matter is washed away, and the residue is subjected to distillation, by which the quicksilver is separated, and at the same time recovered in great part, and the gold usually containing a little silver is left behind. This is the usual process followed in Mexico and South America. In Hungary the gold is generally purified by another process, called *cupellation.* This depends on the property which lead and copper, the metals with which the gold is there mixed in the ores, have of attracting oxygen from the air when exposed to a strong heat, and which the gold does not. The ores are well roasted, to drive off the sulphur they usually contain, and are fused in several successive operations. The metallic mixture, freed from stony matter, thus obtained, is put into a vessel made of bone-ashes called a *cupel;* it is made of that material because it forms a porous texture, and is, at the same time, very refractory in the fire. A strong blast of intensely-heated air is now made to pass over the metal in a state of fusion, and the lead and copper, becoming oxidated, are absorbed by the cupel, or skimmed off, and the gold is left behind. The lead is the great agent, for its oxide is easily fusible into a glassy substance, which sinks into the cupel, carrying the other impurities along with it; so that, if the ore does not naturally contain much lead, a portion is added.

The chief supply of gold for the last two centuries and a half has been from South America and Mexico. The Spaniards who accompanied Cortez were struck with astonishment at the quantity of gold and silver which they found in common use, both for ornaments and for utensils. Pizarro landed in Peru in the year 1527, and he also found gold used for ornaments, and for vessels of various kinds, in considerable quantity. Mines had been wrought for the Incas, and the ore was smelted in small portable furnaces of baked clay, in the rudest manner.

In Mexico the veins of gold are contained in the primary stratified rocks (gneiss and mica-slate) in the province of Oaxacas, towards the south; and the porphyries, which are of frequent occurrence, are in general rich in veins of gold and silver. The grauwacke-strata are also rich in the precious metals, as in the province of Zacatecas; and some mines, as at Real Catorce, are wrought in a secondary limestone. The principal silver-vein in the rich gold-mine of Villalpardo, near Guanaxuato, is traversed by a great number of small earthy veins, so rich in gold that, in order to prevent fraud, the miners are made to bathe in a large tub when they come out of the mine. Almost all the silver of Mexico contains gold, and generally in sufficient quantity to make it profitable to extract it. Stream-gold is also found in many of the alluvial deposites of Mexico, as in the province of Sonora, on the west coast, where masses of five and six pounds weight have been met with. Upon an average of the latter years of the last century the annual produce of Mexico in gold was estimated to be about 517,775 troy ounces, or about 200,000*l.* in value.

Beginning with the western side of the continent of South America, "the most considerable gold-mines of Chili are in the district of Petorea, north-east of Valparaiso; and, farther to the north, in the districts of Coquimbo and Copiaba. In Peru the provinces the most rich in gold are those of Pataz and Huailas, between the seventh and ninth degrees of latitude, and situated in the ridge of the Andes. The Incas obtained vast quantities of gold from the plains of Curimayo, north-east of the city of Caxamarca, at an elevation of more than 11,000 feet above the sea; and in the Cerro de San José, at a height of 13,000 feet, considerable quantities of gold have been found in veins of an ore of silver. Very extensive and productive stream-works are situated on the banks of the river Tipuani, not far from the town of Zorata, eastward of the great lake of Titicaca, and which appear to have been worked by the early inhabitants of the country, for ancient Peruvian tools are sometimes found in the soil. There are veins of gold in mica-slate in the province of Antioquia in Colombia, but there are no mines worked there, on account of the inaccessible nature of the country. All the gold of New Granada is obtained from the alluvial soils, and the richest stream-works are in the provinces of Antioquia and Choco, in the valley of the river Cauca, and on the coasts of the Pacific in the district of Barbacoas; but the auriferous alluvium extends over the whole country from the western Cordillera of New Granada to the sea-shore."—('Penny Cyclopædia,' article 'ANDES.') The annual produce of the gold-mines and stream-works of South America, exclusive of Brazil, is stated by Humboldt to have amounted, at the beginning of the nineteenth century, to 283,429 troy ounces; which, valued in its refined state at 4*l.* per ounce, is equal to 1,133,716*l.*

The district in which gold is now obtained in Brazil in greatest quantity is in the mountainous part of the province of Minas Geraes. It occurs in veins in primary clay-slate, limestone, and granite; and the iron-ore with which those districts abound is also frequently auriferous: but the most fertile source of supply is the stream-gold in the deep alluvial soils which cover the primary rocks. Mr. Jacob estimates the produce of the gold-mines of Brazil to have been equal to 80,000,000*l.* sterling in 110 years, ending in 1810. Thus, the average annual produce from 1752 to 1762 was about 950,000*l.*; from 1765 to 1794 it was about 415,000*l.*; and in 1810 the mines of Minas Geraes, which afford three-fourths of the whole produce of Brazil, yielded only about 205,000*l.* In the subsequent 10 years there must have been an enormous decline, if the statement of Major Von Schäffer, who visited the country in 1822, be correct; for he says, in his work on Brazil, that the produce of the preceding year was only 24 arrobas of gold, which is equal to about 44,000*l.* But it is stated in Leonhard's 'New Annual of Geology,' dated July, 1833, that the gold-mines of Gongo Soco had, a short time before, produced 30 arrobas of gold in three months; and that the same mine had yielded above 100 arrobas in the preceding year: 100 arrobas are equal to 47,233 ounces, so that the value was about 188,932*l.*

The Ural Mountains yield the largest amount of gold that is now produced in the Old World. The mines there have been gradually increasing since their discovery in 1819; and in the year 1830, according to a statement by Humboldt in his 'Fragmens Asiatiques,' they yielded 355 poods of gold. A pood is equal to 45 lbs. troy; and if we estimate the gold, in its refined state, at 4*l.* per ounce, we have a total value of no less a sum than 766,800*l.* The mines are situated on the eastern side of the mountains, and nearly all the metal obtained is from stream-gold. A mine is now worked in the rock at Beresof, 10 English miles north-east from Katharinenburg. The alluvial soil yields from 65 to 130 grains of gold in 100 poods, or 3600 lbs. avoirdupois. Sometimes large lumps are found, one of which, discovered within a few inches of the surface near Miask, in the southern part of the Urals, weighed nearly 330 ounces.

Gold has been long found in various parts of Europe, but the produce has declined considerably, when the average of the last twenty years is compared with that of the preceding hundred years. The only mines that are now of any importance are in Hungary, which a few years ago yielded, according to Brongniart, 20,900 ounces yearly, or about 83,600*l.* in value. Dr. Edward Brown, an English physician, who visited the Hungarian mines about the year 1760, says that the mines of Chemnitz had been worked nearly 950 years, and were then the richest in gold in all the kingdom. But the chief supply is from the alluvial soils; and collecting gold in the beds of torrents and rivers is one of the chief occupations of the gipsies, the *Zigeuner*, who are so numerous in Hungary.

Gold has been found in many of the tin stream works of Cornwall, but none has yet been met with in the mines. Mr. Carne says, however, that many circumstances render it probable that a vein containing gold exists somewhere in the vicinity of the parish of Ladock, north-west of Grampound, although it has never been discovered. Some years ago a considerable quantity of stream-gold was found in the county of Wicklow, in Ireland. Some lumps of considerable size were found: one weighed twenty-two ounces, another eighteen, a third nine, and a fourth seven ounces.

The slate-mountains which run across the southern part of Scotland have afforded stream-gold in several places, particularly the rivulets in and near Crawford Moor, in the southern part of the county of Lanark, and not far distant from the lead-mines of Wanlockhead and Lead Hills. A curious work entitled 'The Discoverie and Historie of the Gold Mynes in Scotland,' by Stephen Atkinson, written in the year 1619, was reprinted at Edinburgh some years ago by the Bannatyne Club. It appears from this, that the gold-mines of Crawford Moor were first discovered in the time of James IV., who reigned from 1488 to 1518, and that in the year 1526 a company of German miners obtained a grant from James V. for forty-three years of the gold and silver mines of Scotland. Similar grants were made by the crown at after periods, among others one by James VI. to this same Stephen Atkinson, who was a refiner of gold and silver in London.

Gold-dust has long formed an article of barter in the trade with the natives of the west coast of the continent of Africa, from the river Senegal to Cape Formosa in the Gulf of Guinea, a part of which is called the Gold Coast. It is not only found in the rivers near the coast, but a considerable quantity is brought from the interior. Our old coin was called a guinea, because when first introduced in the reign of Charles II. it was made from gold brought from this part of the African coast.

Asia has long afforded a great supply of gold from various parts of the continent, and the islands adjoining to its coasts. A very large amount is annually exported from Japan, and some from Sumatra. Gold forms the principal article of export of the island of Borneo, and according to Milburn's 'Oriental Commerce,' the quantity exported annually is 200 peculs, which is equivalent to somewhat more than 300,000 ounces, or about 1,200,000*l.* value.

Gold has been found in the following states of the North American Union—North Carolina, Georgia, South Carolina, Virginia, and Tennessee. The quantity collected in 1832 was equal to about 141,400*l.*

From its softness and flexibility gold would be very unfit for coinage in its pure state, and it is therefore mixed with a small proportion of copper, which has the effect of hardening it. An elaborate series of experiments was made by Mr. Hatchett on the alloys of gold with different metals, an account of which is published in the Philosophical Transactions for 1803. He ascertained that the hardest alloy with copper is composed of eleven parts of gold and one of copper, and that has been adopted as the standard gold of our coinage. The effect of some other metals in changing the properties of gold is remarkable, for if 1-12th part of lead be added, the alloy is as brittle as glass. If a quarter of a grain of bismuth be added to an ounce of gold, that is 1-1920th part, the mixture, although in colour and texture resembling gold, is perfectly brittle. If a like quantity of antimony be added, the mixture is not only brittle, but has hardly any metallic lustre. It becomes, therefore, a matter of great consequence in alloying gold to employ copper which has been previously ascertained to be perfectly pure, for it very usually contains a small admixture of lead and antimony. The hardness imparted by the copper is not such as to destroy that degree of softness and toughness in the mixture which enables it to receive the impression of the dies with perfect exactness. It would not answer to form coins and medals of gold by pouring the melted metal into a mould, for, in passing from the fluid to the solid state, it contracts considerably in bulk, whereas the reverse would be necessary in order to obtain a sharp impression. The quantity of gold coined at the Mint in London, since the commencement of the new gold coinage in 1817 to the 31st of December, 1829, amounted in value to 44,221,490*l.*, and it was coined into 16,120 double sovereigns, 40,072,156 sovereigns, and 7,039,588 half-sovereigns. The addition of copper imparts a reddish tinge to the gold, and this is rendered deeper as the quantity of copper is increased. Trinkets and various articles of jewellery and plate are made of gold of very different degrees of purity. What is called *fine* gold by jewellers is not the pure metal, for that would be unsuitable on account of its softness, but an alloy of gold, silver, and copper, by which a colour is obtained nearly the same as that of pure gold. The gold used by the first-rate London jewellers has about two-thirds of its weight of pure gold. The Dutch ducat, alloyed with silver only, is of a pale yellow colour, and may be bent by the fingers. For gold leaf the purest metal must be selected: to make this, a bar weighing about two ounces is forged on an anvil, and passed between steel rollers until it forms a long riband as thin as paper. This is cut into 150 pieces, and each of these pieces is hammered on an anvil till it is about an inch square. Several of these very thin plates are laid between small sheets of vellum, and placed in a parchment case, and then beaten with a very heavy hammer until the gold plates are extended to about four inches square. Each of these is cut into four parts, and placed between layers of prepared ox-gut, and a packet of these is beaten as before until they extend to about four inches square. Another similar subdivision and beating take place, and thus at last the two ounces of gold produce 2400 leaves, and each grain has been opened out to nearly thirty-one square inches of surface, having a thickness of about 1-150,000th of an inch. It is capable, however, of being beaten much thinner, as we have already noticed. Mr. Jacob estimates the annual consumption of all the gold beaten in the United Kingdom at about 17,500 ounces of fine gold.

The only employment of gold in the arts, otherwise than in its metallic state, is in a preparation which is used for painting on china, to give a pink or red colour.

Silver.

This metal, when free from mixture, is of a pure brilliant white colour, and perfectly devoid of taste or smell. It is so soft as to be easily scratched by copper; but it is nevertheless capable of receiving a high polish by burnishing, inferior only to steel. But polished silver, when exposed to the air, soon becomes tarnished; this depends, of course, upon the nature of the atmosphere, and takes place most quickly where coal is burned, or when, by any other means, sulphur gets dissolved in the air: for the tarnish of silver is not an oxide of the metal, but a sulphuret. This is well illustrated when we eat eggs with ungilt silver spoons, for sulphur is contained in the white of an egg; and mustard-spoons are often tarnished, because mustard is frequently adulterated with flowers of sulphur: the effect is, perhaps, also caused by the sulphur which is a constituent part of that peculiar principle contained in mustard, called *sinapisin.* This liability to be blackened by sulphureous vapours renders silver unfit for architectural decorations, or for any purposes where it cannot be readily cleaned. Its specific gravity, when hammered, is 10·51. It is considerably elastic, and when hardened by an alloy is highly sonorous. In point of malleability it is next to gold, and is capable of being beat into leaves of 1-160,000th part of an inch in thickness. It is also, after gold, the most ductile of the metals, for it may be drawn into wire more slender than the finest human hair, and in this way a single grain may be stretched out to 400 feet. In tenacity it is inferior to iron, copper, and platinum, wire of the tenth part of an inch in diameter supporting a weight of 240 lbs. It is fusible in a moderately intense red heat, corresponding, according to Mr. Daniel, to 1873° of Fahrenheit's scale: a plate about the dimensions of very thin pasteboard will scarcely support the full heat of a very brisk fire in a common grate, and when intensely heated it is volatilized. It is what is called a perfect metal, that is, it does not form an oxide by exposure to air and moisture; but when it is fused in an open vessel it absorbs oxygen in considerable quantity, amounting sometimes to twenty-two times its volume; but it parts with the whole of it again in the act of becoming solid, and Gay Lussac attributes to that circumstance the peculiarly beautiful aspect of granulated silver. If silver in the form of leaf or fine wire be intensely heated by means of electricity, galvanism, or the oxy-hydrogen blowpipe, it burns with vivid sparks, and with an exquisite green-coloured flame, and gives out a dense grey smoke.

Silver is found not only native, but in combination with other substances, forming a great variety of ores. When pure, it is sometimes met with in regularly-formed crystals, and it traverses rocks in the form of veins of various dimensions, and is found in insulated masses in rocks. These last are sometimes of great size; as, for instance, in one of the mines of Peru a lump of pure silver was discovered which weighed 800 lbs. It is related that in the seventeenth century a mass of native silver was found at Kongsberg, in Norway, which weighed 560 lbs. The mines of Freiberg in Saxony have often produced masses of 100 lbs. weight. There are about twenty-five different varieties of silver ore; the most common are the following:—*Sulphuret of silver*, consisting of about 80 per cent. of the metal, and 20 of sulphur; *red silver-ore*, containing about 57 per cent. of silver, 15 of sulphur, 16 of antimony, and 12 of oxygen; *muriate of silver*, containing 68 per cent. of silver, 26 of muriatic acid, and 6 of iron; and *antimonial silver*, consisting of about 84 per cent. of silver, and 16 of antimony. But a large proportion of the silver brought to market is obtained from the ores of other metals, in which silver is a subordinate ingredient, but which, on account of its great value, it is profitable to extract even when occurring in minute quantity. Thus the silver in lead-ore is sometimes separated with profit when it exists only to the extent of eight ounces in the ton of lead; which is only one part in 1481, or a single grain of silver in more than half a pound of lead. The ore called galena contains, in general, more silver than any other lead-ore. The lead formerly found on Brunghill Moor in the district of Craven, in Yorkshire, contained about 230 ounces of silver in the ton, and that of the mines near Plinlimmon, in Cardiganshire, worked in the reign of Charles I., yielded eighty ounces in the ton. The average proportion contained in the lead of the north of England is twelve ounces to the ton.

The silver-ores, properly so called, are found chiefly in veins which traverse the primary and the older of the secondary stratified rocks, more especially the former, and also the unstratified rocks, such as granite and porphyry, which are associated with these. The rich mine of Guanaxuato in Mexico, and that of Potosi in South America, are situated in primary slate. Among the transition strata, limestone is the richest in silver, but grauwacke is also very productive; the rich mines of Zacatecas in Mexico are in that rock. The celebrated mines of Real Catorce, and others near Zimapan, in Mexico, and those of Pasco and Hualgayoc, in Peru, are in Alpine limestone, supposed to correspond in geological age to the magnesian limestone of England (L, diagram p. 235), which rests upon a conglomerate or pudding-stone rock; and in the district of Mexico, on the western slope of the Cordilleras, there are mines in a still more modern secondary deposit, one supposed to be analogous in point of age to the Jura oolite limestone (1), and the veins are more productive in that rock than in the primary strata on which it reposes. Among the unstratified rocks, the porphyries of Mexico are in general very rich in silver, and a vein of it occurs in the variety of granite called syenite at Comanja, in the district of Guanaxuato. In Europe, the workings for silver are sometimes, as in Saxony, in a multitude of slender veins; sometimes, as at Clausthal in the Harz Mountains, and at Chemnitz in Hungary, in a small number of spots, where the veins are of great dimensions. In the three richest districts of Mexico, viz. Guanaxuato, Zacatecas, and Real del Monte, they have only one principal vein, worked in different places. The vein of Guanaxuato is of extraordinary dimensions, from 130 to 148 feet wide, and it has been traced and worked along an extent of nearly eight miles.

The processes for obtaining the pure metal from the ore depend upon the nature of the foreign ingredients with which it is combined. Mechanical division, roastings to separate the sulphur and other volatile matter, meltings at different stages of purification, with the addition of fluxes of different sorts, form the essential parts of nearly all. The last of the operations, that of refining, is performed in one of the two ways we have already described in treating of gold; viz. *amalgamation*, by means of the great affinity which quicksilver has for silver, and the easy separation of the two metals afterwards, by simply distilling off the quicksilver; or *cupellation*, by means of the readiness with which lead combines with oxygen, and by which it is thus separated from the silver, which has a much less affinity for it, at the same time combining with the other baser metals.

The great supply of silver to the rest of the world is from the mines of Mexico and South America. All the silver-mines of Mexico are situated near the summit or on the western flank of the mountains which run through the centre of the country; and the greatest number, as well as the most productive of them, are situated between the 18th and 24th degrees of latitude. They are in general at moderate elevations above the great table-land; but that table-land is from 5600 to 8000 feet above the level of the sea. The highest mines are at an elevation of 9800 feet; but the climate even in that high region is mild and salubrious. At the time of Humboldt's visit there were about 500 mining establishments, containing about 3000 miners, and from 3000 to 4000 veins or masses were worked. These mining establishments are called *Reales;* thus we have the Real Catorce, the Real del Monte, &c.

The ores of silver most commonly met with in Mexico are the sulphuret, the antimonial, and the muriate. Native silver is not sufficiently abundant to be reckoned among the productive ores, but it usually accompanies the sulphuret. Sometimes masses of it of great size have been found, as at Batopilas in New Biscay, where one weighing 442 lbs. was met with. The variety of sulphuret of copper called grey copper is of frequent occurrence, and contains so much silver as to be considered one of the most productive of the silver-ores; and there is an earthy ore called *colorados* in Mexico, and *pacos* in Peru, which is an intimate mixture of minute particles of native silver and muriate of silver with brown oxide of iron. A great deal of the silver of Mexico is extracted from lead-ore. At Real del Monte, a sulphuret of iron yields 22 ounces of silver in the quintal, or 102 lbs. Some of the ores are extremely rich. The antimonial ore of Sombrerete yielded in six months 432,274 troy pounds of silver, equal to about 1,300,000*l.* in value, in a working of not more than 100 feet. In the mine of Valenciana, in the district of Guanaxuato, there were, in 1791, some ores which contained 168 ounces in 102 lbs.; but there were others which were so poor as not to yield more than three ounces; the average being only nine ounces in that same mine. It is supposed that the mean richness of all the ores of Mexico is not greater than from three to four ounces in the quintal of ore. The mines of Peru are not richer on the average, and the famous mine of Potosi is not so much so, for its average produce is no more than $1\frac{6}{100}$ in the quintal. The average produce of all the mines of Saxony is from three to four ounces in the quintal.

The richest silver-mine at present worked in Mexico is that of Veta Grande, four miles north of Zacatecas, on the table-land, at an elevation of 6000 feet above the level of the sea. There is one great vein from 8 to 30 feet thick, in different places, but which separates in others into three and four branches. It traverses transition strata, consisting of clay-slate, grauwacke, and limestone, resting on the variety of granite called syenite, and covered occasionally by porphyry. The ores are chiefly native silver and antimonial silver, and yield on an average $3\frac{1}{2}$ ounces of pure metal in the quintal. It produced in 1832, 160,000 troy lbs. of silver. Humboldt gives a statement, founded on official documents, of the produce of the mines of Mexico from 1690 to 1803, which shows that they had been continually on the increase during that period; in the first 10 years of it the average annual value of the gold and silver obtained was only 92,000*l.*, but in the last 10 years it was 4,800,000*l.*, of which nineteen-twentieths were silver. He reckons that the average annual amount during the first 10 years of the present century was little short of 5,000,000*l.* sterling; the quantity of pure silver annually produced in that time being 1,440,650 troy lbs.

The three districts of Guanaxuato, Catorce, and Zacatecas alone furnished more than the half, and the vein of Guanaxuato more than the fourth, of all the silver in Mexico. The proprietors of the mines of Valenciana, in the district of Guanaxuato, derived, for a long time, from 80,000*l.* to 120,000*l.* per annum from those mines. The Count de Regla drew in 12 years from the mine of Biscaina, in the Real del Monte, above 1,000,000*l.* sterling; the mine of Padreflores, in the Real Catorce, yielded 320,000*l.* clear profit the first year it was worked. The mine of Veta Grande, above mentioned, yielded on an average of the three years ending December, 1831, 150,000 troy lbs. of silver, and netted to the proprietors 176,000*l.*, or a profit of 185 per cent. on the capital invested. In the year 1832 the silver produced was 180,000 lbs. troy, and the profits were 196,000*l.*; in 1833 it was considerably less, but in 1834 it had again augmented, so that there was every appearance that it would turn out nearly as great as that of 1832.*

"There are now mines in Peru along the whole range of the Andes, from Caxamarca to the confines of the desert of Atacama; but the richest are those of Pasco, in the 11th degree of latitude, which have been worked since the year 1630. Here, as well as in other situations in Peru, the greatest part of the silver is obtained from the ore called *pacos*. To form a just idea of the enormous quantity of silver in some of these mountains, it is only necessary to state that in the mines of Pasco the ore has been worked without intermission since the beginning of the seventeenth century; and that in 20 years preceding 1803 no less than 3,086,420 troy lbs. of silver had been obtained from them, and that too without in any case sinking deeper than about 70 fathoms, while most of the mines do not exceed 15 fathoms in depth. The stratum of limestone in which the ore is contained lies exposed at the surface over an area of three miles by a mile and a half. The mines of Chota are also very productive. They are situated in the mountain of Gualgayoc, at an elevation of 13,300 feet, where the thermometer in summer descends every night to the freezing point. The ore lies quite at the surface, so that in removing the turf almost in any place, over an extent of half a square league, portions of sulphuret of silver and filaments of native silver may be met with adhering to the roots of the grass. The ore is richer than that of Pasco, and yielded, on an average of 28 years prior to 1803, 41,477 troy lbs. of silver annually. In the district of Arica, on the very borders of the Pacific, at Huantajaya, there are mines of silver which are celebrated on account of the very large masses of pure solid silver sometimes found there, one of which weighed 800 lbs. The most renowned of all the silver-mines of South America are those of Potosi, in Upper Peru. They are situated in a lofty mountain, called the Cerro del Potosi, composed of clay-slate covered by porphyry, and rising to the height of 16,000 feet above the sea, the town of Potosi itself being 2700 feet below the summit."—('Penny Cyclopædia,' Art. 'ANDES.')

The political disturbances in the present century have seriously injured this once opulent district. Captain Andrews, who visited it in 1826, says that, from a population of 130,000 at the commencement of the revolution, it had dwindled down to 11,000; that at one period there were 132 stamping-mills for breaking the ore, but that when he was there only 12 were employed: and Sir Edward Temple, who visited Potosi about the same time, says that all the mines put together do not produce 123,400 troy lbs. of silver annually, or about 30,800*l.* in value. There are silver mines in the province of La Paz, in the ancient viceroyalty of Buenos Ayres, which yielded at the time Humboldt wrote nearly 800,000*l.* annually. Silver is also found in Chili.

This metal has been found for many ages in various countries of Europe. The most productive mines have been those of Saxony, Austria, Hungary, Norway, Russia, and Spain; but the average annual produce of all the mines of Europe in the last 20 years of the eighteenth century, according to Mr. Jacob, did not exceed 600,000*l.* in value. The mines of Saxony were first discovered in the tenth century; and, in the early part of the thirteenth, the mines of Schneeberg are said to have yielded 300,000*l.* annually; but the annual produce of all the mines, taken on an average of late years, cannot, Mr. Jacob says, be estimated higher than 400,000 ounces of silver, or about 100,000*l.* The richest of the Saxon mines is that called Himmelfürst, a short distance from Freiberg. There are five veins which traverse the primary slate-rock, called gneiss by geologists, the principal vein being from 18 to 36 inches in width. The ores are native silver, sulphuret, and red silver; and there is a sulphuret of lead, or galena, which is rich in silver. The average richness of all the ores is, however, not more than from six to seven ounces in 100 lbs., and the average annual produce was then only 6100 troy lbs., or about 18,500*l.* in value.

The mines of Austria were the chief sources of mineral wealth during the middle ages; but their produce in silver appears at no period to have been considerable. They are situated in Hungary, Bohemia, and the Tyrol. Those of Chemnitz and Kremnitz, in Hungary, have been worked, it is said, above 1000 years. The silver-mines near Brixen, in the Tyrol, were formerly very productive, but they have long ceased to be so.

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* For the particulars respecting the Veta Grande we are indebted to Mr. Frederick Burr.

The mine of Kongsberg, in Norway, according to Bergmann, was, in the middle of the last century, the richest in Europe. It yielded, from the year 1728 to 1768, about 649,270 troy lbs. of silver, equal in value to nearly 2,000,000*l.* sterling. Native silver was the chief form in which it was found, but it produced also the sulphuret and red silver ores. The silver of Russia comes from the Ural Mountains, and is wholly obtained from the refining of the stream-gold, which contains from 1 to 15 per cent. of silver, and from lead-ores.

Silver-mines were worked in Spain by the Phœnicians, Carthaginians, Romans, and Moors. During the dominion of the Romans the principal mines were in Old Castille, near Soria, the ancient Numantia, Azagala, and Burgos, where remains of the old works are to be seen. The mines of Guadalcanal and Cazella, in Estremadura, are the only mines which, in later times, have been worked with regularity, but even these are now wholly abandoned as unprofitable. Those of Guadalcanal are supposed to have been discovered in 1505, and it is said that, in the course of some years, they had yielded about 330,000*l.*, which was expended in building the great palace of the Escurial. In the year 1598 they were leased to two brothers, Germans, of the name of Fugger, who were celebrated as the most skilful miners of that age; and during their occupancy of them they acquired immense wealth. They were discovered to have defrauded the government by erecting a coining-machine in the mines, and were obliged to make their escape from Spain in 1635; but they took severe revenge, for, before their flight, they turned a stream of water into the mines, by which they became completely inundated. They remained neglected till 1728, when the working of them was undertaken by an English lady, the Lady Mary Herbert, a daughter of Lord Powis, but the scheme turned out a complete failure.

With the exception of the silver extracted from the ore of lead, it is now only occasionally found, and that only in small quantities, in any part of the United Kingdom. Native silver, and several of the other varieties of the ores, are met with in many of the copper-mines of Cornwall; but there are no indications to warrant any rational belief that silver constitutes one of the mineral treasures of this country. About 50 years ago a vein of silver-ore was, for a short time, wrought with great advantage in the parish of Alva, in Stirlingshire; the ores were native silver and the sulphuret, and from 40,000*l.* to 50,000*l.* worth were obtained before they were exhausted. In the year 1607 a silver-mine was discovered at Hilderston, near Linlithgow, and in the General Register House at Edinburgh are preserved the original accounts of the workings there.

Of the silver formerly obtained from Asia we know little, and only a small amount has been derived from thence in modern times. There are silver-mines in the province of Erserum, in Armenia, which yield at present about 120,000*l.* annually. None are known to exist in Persia, or in any part of the possessions of the East India Company. But there are some in the eastern part of China, and that they have become very productive of late years is evident from the fact that China from being an importing is now an exporting country for silver. Canton exported silver to England in 1832 equal in value to 390,000*l.*, and about as much more to India; and a considerable part of this large export is native silver.[*] Silver does not appear to be a product of any part of Africa.

Silver is applied to no purposes in the arts otherwise than in the metallic state, with the exception of one preparation of it when in combination with nitric acid. The lunar caustic used by surgeons is a nitrate of silver, and it also forms the basis of the indelible ink used for marking linen. When silver is used for coin and for plate, it is always alloyed with copper in order to increase its hardness. Our standard silver consists of 12½ parts of silver and 1 part of copper; but the maximum hardness is produced by a mixture of one-fifth part of copper. The amount of silver coined at the Mint, in London, from the commencement of the silver-coinage in 1816 to the 31st of December, 1829, was in value 9,148,986*l.*; and it was coined into 1,849,905 crown-pieces, 28,007,490 half-crowns, 83,662,920 shillings, 40,027,680 sixpences, and 1735*l.* were coined into the silver pennies which are distributed by the Lord Almoner, in Whitehall Chapel, to the pensioners of her Majesty on Maunday Thursday.

For the greater proportion of plated goods, especially those of the best quality, the metal is thus prepared:—A bar of copper is made quite smooth and clear on one of its surfaces; this is sprinkled over with glass of borax, and there is laid upon it a plate of fine silver about one-twelfth of the weight of the copper, and the two are carefully bound together by wire. The mass is now exposed to a full red-heat, which melts the borax and causes the silver to adhere to the copper; the ingot is now passed through a rolling-press and formed into a plate, both the silver and copper extending uniformly during the whole process, at the conclusion of which the two metals are inseparably fixed to each other. Another mode of plating is by the process called "*silvering*," when an amalgam of silver and mercury is well rubbed upon the surface of the copper: by the application of heat the mercury is driven off, and the silver remains behind, adhering firmly to the copper, and capable of being highly polished.

Mercury or Quicksilver.

This substance is the only metallic body which exists in a fluid state at ordinary temperatures. If, however, it be exposed to a cold equal to about 72° below the temperature at which water freezes, it becomes solid. The naturalist Patrin relates that during eight winters that he passed in Siberia he frequently saw mercury in a solid state, from the excessive cold, especially the winters from 1782 to 1785, which he passed at Tomsk. At Krasnojarsk, on the Yenisei, in lat. 56°, that is, corresponding nearly to the latitude of Edinburgh, Pallas saw mercury as solid as tin. By experiments made upon this metal when rendered solid by artificial means, it has been found to have a tendency to assume regular crystalline forms, to be malleable, and to be capable of being cut with a knife. In such experiments the tools employed must be previously rendered at least as cold as the mercury, otherwise the effect would be very much the same as if we were to attempt to cut wax with a red-hot knife. A piece of solid mercury placed on the hand causes a painful sensation like that of burning, and if suffered to remain would cause a blister. Mercury contracts greatly in bulk when frozen, for at the temperature of 47° it has a specific gravity of 13·54, whereas when solid it becomes as heavy as 15·61. It boils at a heat of 662°, or nearly three times that of boiling water, and if it be pure it will evaporate without leaving any residuum; the vapour condenses upon the surrounding cooler bodies, coating them with a white shining dew, which, when examined by the microscope, is seen to consist of myriads of minute globules. It expands by increase of heat, and up to the temperature of boiling water at least, or 212°, equal measures of heat produce equal rates of expansion; a property which renders mercury the best of all fluids for the construction of thermometers.

This metal is found in its pure state in most mines where other ores of it exist; but never hitherto in such quantity as to be a special object of working. The chief source of supply is from ores in which the metal is in combination with other mineral substances, and most commonly with sulphur. It is found in combination with silver, in which case it is called by mineralogists *native amalgam*, and this mineral, according to the analysis of Cordier, consists of 72½ per cent. of mercury and 27½ of silver. Another ore, called horn mercury, from having such a consistence as to be capable of being cut like horn, is a compound of the metal with oxygen, muriatic and sulphuric acids; but the most common ore is a combination of mercury and sulphur commonly known by the name of cinnabar, which consists, according to the analysis of Klaproth, of 84½ per cent. of mercury and 14¾ of sulphur. This substance, both in its natural state and when prepared artificially, is used as a red paint, being previously reduced to a fine powder, when it goes by the well-known name of vermilion. There are several varieties of ore in which native mercury, cinnabar, and horn mercury are dispersed through earthy and bituminous matter in various proportions.

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[*] Macculloch's Commercial Dictionary.

Mercury may be considered, in comparison with those metals we have already treated of, as of rare occurrence, the supply of it being derived from a small number of places. The ores occur in the primary rocks, and in the older of the secondary, especially the strata belonging to the coal-deposits; viz. in the bituminous shales and indurated clays, often accompanied by impressions of fishes. There are no instances on record of their being met with in the newer of the secondary strata, or in any of the deposits that lie above these.

The chief mines are in Spain, Austria, and the country bordering on the Rhine which formed a part of the ancient Palatinate. Formerly there were very extensive mines in South America. Small quantities are obtained in France, Hungary, and Sweden. The great quicksilver-mines of Spain are at Almaden, a small town of La Mancha on the frontier of Cordova, south-west of Ciudad Real, and situated in the mountains of the Sierra Morena. The prevalent ore is cinnabar, which is found in veins that traverse sandstone and slate. The veins are from 2 to 14 feet thick, sending out numerous ramifications. In some parts they swell out into much greater dimensions, even to so much as 50 feet, but this is in places where branches cross each other or come in contact. We have no account, however, of the working of these mines until about the early part of the seventeenth century, when the then celebrated German miners, the brothers Fuggers, obtained a lease of them, agreeing to deliver annually to the King of Spain 4500 quintals, or about 160,000 lbs. of quicksilver. Nearly the entire produce of these mines was sent to Mexico and Peru, to be used in separating the precious metals from the ores by the process of amalgamation. Either from a failure of the ore, or in consequence of the strange policy of the Spanish government, which threw obstacles in the way of mining operations in the mother country in order to encourage those in the colonies, or from some other cause, the mines of Almaden became considerably less productive for a long time; but about the end of the last century, the quicksilver-mine of Guancavelica in Peru having failed, the works were resumed with such increased activity that the produce was raised from 6000 to 18,000 quintals annually. Le Play, a French geologist, visited Almaden in 1833, and describes the mines as being more flourishing then than at any former period, yielding annually 22,000 quintals of mercury, or about 2,244,000 lbs. About 700 workmen are employed underground, and about 200 in the operations connected with the extraction of the metal at the surface.

The quicksilver-mines of Austria are situated at Idria, a mountainous district on the borders of Carniola, about 25 miles north-by-east of Trieste, and about the same distance west of Laybach. The chief ore is a bituminous sulphuret of mercury, that is, cinnabar mixed with bituminous and earthy matter, and it occurs in veins that traverse a limestone-rock. The mines, although 850 feet deep, are easily accessible and quite dry, so that they are frequently visited by strangers, who suffer little inconvenience except from the fumes of quicksilver, which are disengaged from the ore even in the mine itself. In 1803 these mines unfortunately caught fire, and the conflagration raged to such an extent that they were completely abandoned. Attempts were made to smother the fire, but after a while it burst forth like a volcano, shaking the ground all about, and shattering the adjoining houses like an earthquake. It could only be subdued by turning a stream into it, and thus completely drowning the works. The loss was immense, for, besides the destruction of the internal works, it was nearly three years before the water could be drained off and the operations resumed.

After the mines of Almaden and Idria the most considerable in Europe are those in the ancient Palatinate, that part of the frontier-country of Germany and France on the left bank of the Rhine, westward of Worms. There are records of their having been worked in the thirteenth century. They are situated in a hilly country, which forms the northern termination of the range of the Vosges mountains, extending about 30 miles from south to north, from Wolfstein to Kreutznach, and about 20 miles from east to west. The mines are in the coal-strata, coal being worked to a considerable extent in the country at different places; and the bituminous schist, which is rich in mercurial ore, frequently contains fossil fishes. When the successful armies of the French Republic took possession of this territory, a commission of scientific men was sent to inquire into the state of the quicksilver-mines, and they reported that their annual produce amounted to about 67,000 lbs. of mercury.

The most celebrated quicksilver-mines of South America are situated in the mountain Santa Barbara, near the town of Guancavelica, about 150 miles south-east of Lima. The part of the mountains where the mines are situated is 12,300 feet above the level of the sea. The cinnabar occurs in the form of layers and of veins in a sandstone which is almost as compact as pure quartz, 13 feet thick, forming a subordinate bed in a calcareous puddingstone, or rather breccia, that is, a rock composed of angular fragments of limestone, cemented together, resting upon or rather being a part of an extensive formation of magnesian limestone. From documents which have been regularly kept of the produce of these mines, it appears that they had in general yielded annually from 400,000 to 600,000 lbs. of quicksilver, and in some years as much as 1,050,000 lbs. But in 1789 an ignorant superintendent, wishing to increase the produce, caused the miners to work the masses which had been left to support the roof, as is usually done in coal-mines; the consequence of which was, that, when the pillars were taken away, the roof of the mine sank down to the floor and closed it. (See 'Penny Cyclopædia,' article 'ANDES.')

The method of obtaining quicksilver from cinnabar, which is by far the most common ore, is very simple. The ore, after being broken, carefully picked, and reduced to powder, is put into an iron retort, with a proportion of quick-lime; a glass receiver is attached to the neck of the retort, and, by the application of a strong heat, the sulphur combines with the lime; the quicksilver is set free,—is distilled over and is collected in the receiver. A hundred pounds weight of ore yield in general from six to ten ounces of mercury.

The great consumption of this metal is in the refining of gold and silver ores by the process of amalgamation. The quantity of mercury used in the refining establishments of Mexico at the time of Humboldt's visit was about 1,632,000 lbs. annually, and those of South America consumed about 918,000 lbs. A large quantity is imported into China for the same purpose. On an average of the 14 years ending with 1828, the imports of quicksilver into Canton by the English and Americans amounted to 648,085 lbs. annually. The quantity imported into the several ports of the United Kingdom in the year 1833 was 1,597,800 lbs.; and in the same year 1,166,137 lbs. were exported, and 260,158 lbs. cleared for consumption. With the exception of a small quantity from Germany, the whole amount imported was from Spain. The exports were to all parts of the world, but the largest proportions to Mexico, Chili, Peru, and different ports in India, including the Archipelago and China.

Mercury is extensively used in the arts, in various processes of gilding, and in jewellers' and silversmiths' works. In gilding, the gold is formed into a soft amalgam with mercury, and in that state is applied to the copper button, or other article; the mercury is driven off by heat, the gold remains behind, and is then burnished. One of the most extensive uses of it is for the manufacture of vermilion for paint, and for the colouring of sealing-wax. The quantity of quicksilver converted into vermilion in Paris amounts to about 40,000 lbs. annually, of which the greater part is consumed in the manufacture of sealing-wax. There is also a large consumption of quicksilver for the silvering of looking-glasses, which is done with tin-foil and a layer of mercury between it and the glass. The manufacture of barometers and other philosophical instruments must also require no inconsiderable quantity. The use of preparations of mercury in medicine is well known, especially in the form of calomel, which is a compound of mercury, oxygen, and muriatic acid; and a larger proportion of the acid forms corrosive sublimate, one of the most deadly poisons.

Platinum.

This metal was first brought to Europe from South America, in 1741. It is so named from its resemblance in colour to silver, which in Spanish is *plata*.

Pure platinum has a silvery whiteness, but with an inferior brilliancy of lustre. It has a specific gravity of 21·5; but Professor Breithaupt of Freyberg has described a metallic substance found in the sand containing platinum ore from the Ural Mountains, having a specific gravity of 23·64, and which he ascertained to be native iridium. Platinum may be beat out into very thin leaf, but it is inferior in this quality to gold, silver, copper, and tin. It is the most ductile of all the metals, as was proved by the experiments of the late Dr. Wollaston, described in the 'Philosophical Transactions' for 1813, who succeeded in drawing it to the extraordinary tenuity of 1-30,000th part of an inch in diameter. Those who draw silver wire in large quantities for lace and embroidery sometimes begin with a rod of silver that is about three inches in diameter, and ultimately draw that out so as to obtain wires that are as small as 1-500th part of an inch in thickness. If a hole be drilled in the silver rod longitudinally in any stage of the process, having its diameter 1-10th part of that of the rod, and if a wire of pure platinum be inserted so as to fill the hole, it is evident that, by continuing to draw the rod, the platinum will be reduced in diameter exactly in the same proportion as the silver; so that if both be drawn out together till the diameter of the silver is 1-500th of an inch, then that of the platinum will be only 1-5000th part. Dr. Wollaston followed this method; but as it is difficult to drill a hole in the silver, he formed a cylindrical mould, one-third of an inch in diameter, fixed in the centre of it a platinum wire, previously drawn to 1-100th of an inch, and then filled the mould with melted silver. By successive reductions, he obtained wires of 1-4000 and 1-5000, and in subsequent experiments he obtained a wire as small as 1-30,000th part of an inch. When the drawing was completed, the wire was thrown into nitric acid, which dissolved the silver, leaving the platinum behind. The tenacity of platinum is very considerable, for a wire 1-10th of an inch in diameter will sustain a weight of 590 lbs., gold of the same diameter supporting a weight of 500. It is the most difficult of fusion of all the metals; Messrs. Stodart and Faraday state * that it was partially fused by them in furnaces at the Royal Institution. Dr. Marcet fused platinum wire in the flame of a spirit-lamp urged by a blowpipe with oxygen gas. When exposed to the heat of a great galvanic battery it melts, and then burns, giving out sparks. It is not acted upon either by air or moisture at any temperature; but although so dense a body, it is a worse conductor of heat than many substances of inferior density.

The two great sources from which we derive this metal are the provinces of Choco and Barbacoas, in the north-western part of Columbia, and a district of the Ural Mountains. The platinum of Choco is found principally on the left bank of the river Cauca, in the same alluvial soil from which the chief part of the gold of New Granada is obtained. The grains are small, and lumps are very rare. The platinum of Russia is found in the Ural Mountains, more particularly in the province of Ekatherinburg; and Nishnei-Tagilsk, in lat. 58° 41′, is the central point of a district belonging to Count Demidoff, where there is an alluvial soil extremely rich in gold and platinum. A lump was found near Nishnei-Tagilsk which weighs above 21 troy pounds, and lumps of smaller size are not uncommon. The quantity of platinum obtained from the Ural district, according to Humboldt, was as follows:—

	Poods.	lbs.		lbs. Avoird.
In 1828,	93	33	which is equal to about	3378
1829,	78	31	„ „	2836
1830,	105	1		3780

To obtain pure platinum from the ore was long an extremely difficult process. A method was discovered by Dr. Wollaston, who established a manufacture of it, and the platinum used in the arts in England was, for several years, obtained almost exclusively from him. He kept the process a secret until within a very short time of his death, when a full account of it was laid before the Royal Society in November 1828, and published in the 'Philosophical Transactions' shortly afterwards. The properties of this metal render it a most valuable substance for crucibles and other vessels used in chemical processes. In the manufacture of oil of vitriol, or sulphuric acid, on the large scale, it was usual to employ glass retorts for the purification and concentration of the acid; but these were liable to break from various causes. Mr. Tennant, of Glasgow, conceived the idea of substituting retorts of platinum for those of glass, by which means not only the accidents from breakage would be avoided, but a much stronger heat could be employed in the process of distillation than could be ventured upon with the glass. The works of this ingenious and enterprising chemist were originally established for the manufacture of a substance used in bleaching—a combination of chlorine, or oxy-muriatic acid gas, with lime; they have now been increased by the addition of manufactures of sulphuric acid, soda, and soap, processes all connected together; and his establishment is probably the most extensive of the kind in any part of the world, there being no less than eleven acres *under roof*. He has two retorts of that metal for distilling sulphuric acid, the one of which cost 1600*l*., and the other 1680*l*. One of them weighs 1445 ounces, and has a capacity of 79 wine gallons; the other weighs 1370 ounces, and has a capacity of 90 gallons. Pieces of money have been struck in this metal in Russia; and it has been employed by Mr. Daniel in the construction of his ingenious pyrometer. The maximum of expansion of platinum, and therefore the greatest heat that it is capable of measuring, is equivalent to 3280 degrees of Fahrenheit.

Zinc.

This metal was first described under the name of *Zinctum* by the alchemist Paracelsus. The name is supposed by Leonhard to be of German origin, and to have been a miner's term, from the word *Zinke*, which signifies a sharp point or pinnacle, the metal in the furnace shooting into crystalline forms. In England it is known in commerce by the name of *Spelter*.

When pure, zinc is of a bluish-white colour, with a bright metallic lustre, but it is speedily tarnished by the air. Its specific gravity is 7·10. It is very brittle at ordinary temperatures, but when heated to 212° it may be beat or rolled out into tolerably thin plates; and that property continues until the heat goes beyond 300°, when it again becomes brittle, and if it be raised to about 400° it may be easily reduced to powder. It must be heated also in order to show its property of ductility; but if the wire be properly annealed it retains, when cold, a considerable degree of tenacity. It melts at a heat equal to 773° of Fahrenheit: by a moderate increase of temperature it is volatilised unchanged in close vessels, but exposed to the air it forms a white oxide called flowers of zinc: and if the heat be raised to 941°, it burns with a brilliant white light. It is little altered by exposure to air and moisture.

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* 'Philosophical Transactions,' 1822.

Zinc is always found in combination with oxygen, carbonic acid, sulphur, water, earthy and other metallic bodies. The most common are those called *Calamine* and *Blende*. Calamine (*Lapis Calaminaris*) is a compound of about 65 per cent. of oxide of zinc and 35 of carbonic acid; and some varieties of it are composed of 72 of oxide of zinc, 13 of carbonic acid, and 15 of water. Blende, called by the English miners "*Black Jack*," is a compound of zinc and sulphur in varying proportions. Blende is found in the primary and in the older of the secondary stratified rocks, and very frequently accompanies ores of lead and copper, but especially the former. Calamine is more commonly met with in the secondary strata, and principally in limestone. The ores of zinc are met with in Germany, Belgium, France, and Sweden; and in Great Britain, in Cornwall, in the Mendip Hills in Somersetshire, abundantly in the limestone of Derbyshire, where the lead-mines are situated, and in some other places. But all the zinc that is now produced in the United Kingdom is insufficient for the demand, and a large amount is imported annually, chiefly from Germany and Belgium. In the year 1833 the importation was 65,115 cwt., of which rather more than a half was retained for home consumption, the chief export being to the East Indies.

The ore is carefully picked, to separate any impurities, and roasted in a furnace in a moderately red heat, by which the carbonic acid is driven off from the calamine and the sulphur from the blende. An oxide of zinc remains, and this is intimately mixed with powdered coal by their being ground together in a mill. The mixture is now put into large earthen crucibles, having an iron tube in the interior, one end of which rises near to the top, the other passing through the bottom of the jar and the floor of the furnace into a cistern of water underneath. Covers are firmly luted to the crucibles; they are surrounded with fuel in the furnace, and an intense heat is kept up for several hours. The carbon of the coal combines with the oxygen of the ore; and the metallic zinc, thus set free, rises in a melted state to the top of the crucible, descends through the iron tube, and is condensed in the water in the form of drops. These drops, being collected, are again melted, and poured into moulds to form the bars or ingots in which the metal is brought to market. Eight tons of calamine and 22 tons of coal yield about two tons of zinc.

The chief consumption of this metal is in making brass, which is a compound of copper and zinc. The common brass of Paris contains about 13 per cent. of zinc, that of England rather more; and a remarkably fine brass made at Geneva for the nicer parts of watchmaking contains 25 per cent. The brass of England is far inferior to that made in many parts of the continent, and that used for philosophical instruments is chiefly obtained from Holland. Zinc, rolled out into sheets, has been used for covering roofs, and it has of late been manufactured into vessels for culinary and other domestic purposes. It is very unsuitable, however, for kitchen-utensils, because it combines very readily with acids, and such combinations act as violent emetics. United with oxygen it forms a white powder, which is used in oil-painting. White vitriol, a substance employed in many processes of art, and in medicine, is a compound of zinc and sulphuric acid.

Antimony.

Pure antimony has a dull whitish colour, but when fresh melted, or recently broken, it has a considerable lustre, which tarnishes soon by exposure to the air. Its specific gravity is only 6·70, and it can neither be hammered out into plates nor drawn into wire. It melts at a temperature of about 810° of Fahrenheit, but, if air be excluded, it does not rise in vapour even though exposed to a very intense heat; in an open vessel it burns at a high temperature, with a bright flame, and is volatilized; the vapour condenses on the surrounding cooler bodies in the form of brilliant crystalline needles, of a snowy or silvery white, called *argentine flowers* of antimony, or *snow of reguline*

The metal is sometimes found in the native state, but it is rare. The most common form in which it occurs is in combination with sulphur, in the proportions of about 74 per cent. of antimony and 26 of sulphur, forming a mineral not unlike lead, but so fusible that a small fragment of it may be melted in the flame of a candle. The ores are found in the primary and more ancient secondary strata, never in the sedimentary deposits above these, nor in the unstratified or igneous rocks. They are found in Cornwall alone in the United Kingdom, and not very abundantly there. The largest supply is from the East, and a considerable quantity is shipped at Bombay; the most abundant mines of antimony in the world are in the island of Borneo, the produce of which is chiefly shipped at Singapore.

The metal is obtained by first heating the ore in a furnace with charcoal; and, from its very fusible nature, the earthy impurities with which it is mixed are easily separated; what remains is the common or *crude* antimony of the shops, a combination of the metal with sulphur. The sulphur is got rid of by exposure to a gradual heat, and the residue being mixed with tartar and subjected to a full red heat, the metallic antimony separates in a melted state, called the *regulus* of antimony.

The chief consumption of antimony is for the alloy of which printers' types are made, which is a composition of about four or five parts of lead, one of antimony, and a little copper. The metal on which music is engraved is an alloy of tin and antimony. Oxides of antimony are employed to give a yellow colour to glass and earthenware. Some preparations of it are powerful medicines.

Bismuth

Is of a reddish-white colour, with a considerable lustre,—has a specific gravity of 9·82, and possesses neither malleability nor ductility. It melts at a temperature of 476°; in a stronger heat it ignites, burning with a blue flame, and, when exposed to a high temperature in a close vessel, it sublimes entire. It unites readily with other metals, rendering them more fusible. A mixture of nine parts of bismuth, five of lead, three of tin, and two of mercury, forms what is called the *fusible metal.*

Bismuth is found in the pure state, as an oxide, and in combination with sulphur. These ores are met with in primary rocks in different parts of Germany, Sweden, Norway, and France, and sparingly in Cornwall, and in Connecticut in the United States. The metal is easily obtained from the ores in consequence of its great fusibility. It is little employed in its metallic state, except in the best kinds of plumbers' solder, which is composed of five parts of lead, three of tin, and one of bismuth. In the state of white oxide it is used as a paint.

Manganese

Was discovered by the Swedish chemists Scheele and Gahn, in the year 1774. The metal is never found in a pure state: when obtained artificially, it is of a grey or whitish colour, like fresh-fractured iron, has a specific gravity of 8·00, and is neither malleable nor ductile. It requires a greater heat than iron does to melt it. There are different varieties of ores, but they are all oxides, mixed with various proportions of iron, sulphur, carbonic acid, and earthy matter. The most common is the black oxide, which occurs sometimes crystallized, at other times, and more abundantly, in the form of a black earth, in which state it is called *black wad.* It is found in most parts of the world, and, in minute quantities, is a very generally diffused substance in a great variety of rocks and other minerals. It is most abundant in the primary and more ancient of the secondary rocks. There is a manganese mine near Callington in Cornwall, and it is found in considerable quantity near Upton Pyne in Devonshire.

The great consumption of the black oxide of manganese is for the purpose of obtaining oxygen gas from it, for the manufacture of bleaching liquors and powders. For this purpose a mixture of common salt and black oxide of manganese is put into a proper vessel, sulphuric acid is poured upon it, and heat is applied. The sulphuric acid decomposes the common salt, setting muriatic acid free, which acts upon the manganese, and chlorine, or oxymuriatic acid gas, as it used to be called, is produced, which is afterwards combined either with potash, or, what is more usual, with quick-lime in the dry state; and this last is the bleaching powder of Tennant, now universally consumed in bleaching establishments. The usual way in which chemists obtain oxygen gas is by heating the black oxide of maganese in an iron retort, and conveying the gas by a tube under the surface of water into jars. It is also extensively used in the manufacture of glass, in order to render it colourless.

Cobalt

Was discovered by Brandt, a German chemist, in 1733. It is never found pure. When obtained from the ore it is of a reddish-grey colour, without much lustre, has a specific gravity of 7·83; it is brittle at common temperatures, but, when red-hot, may be partially extended under the hammer. It is fusible only in a very strong heat, nearly as high as that required to melt cast-iron. It is attracted by the magnet, and is capable of being rendered permanently magnetic.

The most common ores of this metal are its combinations with arsenic, sulphur, and iron: they occur in veins traversing the primary strata, and also in the rocks themselves. The chief supply of the metal is from Norway, Sweden, Bohemia, Silesia, and Saxony.

The sole use of this metal is in the state of an oxide, when it gives a blue colour to glass, porcelain, and other earthy mixtures. One grain of the pure oxide gives a very full blue to 240 grains of glass. When it is melted with vitrifiable materials, such as flints, and finely ground, it is called *smalts, azure-blue*, and *powder-blue*. In the manufacture of smalts, the ore is roasted in a furnace of a particular construction, having a horizontal chimney, sometimes 600 feet long, chiefly composed of wood. The purpose of this very long chimney is to condense the vapours of the arsenic contained in the ore, and prevent their escape into the atmosphere. The ore, being well calcined, is ground to a fine powder, mixed with two parts of powdered flints or quartz, and melted, and thus a blue glass is formed. This last, by repeated grindings and washings, is brought to the state of a very fine impalpable powder, and then it is fit for use. The principal manufactures of smalts are in Norway, and at Schneeberg in Saxony.

The great consumption of smalts is to give a slight blue tint to white linen and cotton fabrics after they have undergone the process of bleaching. In the manufacture of paper the blue shade is given by this material.

Arsenic

Was first made known as a peculiar metal by Brandt, in the year 1733. The pure metal is of a greyish-white colour, with a bright metallic lustre, but it speedily becomes black by exposure to the air. It has a specific gravity of 5·88, and is exceedingly brittle. When combined with other metals, it renders them brittle and immalleable. Its point of fusion has not been exactly ascertained, but when exposed to a heat of 365 degrees it is dissipated into vapour. If the operation be carried on in a close vessel, the metal is sublimed without change; but, when exposed to the air, it combines with oxygen, and is converted into a white powder, which is an oxide, with slightly-acid properties, and is the common arsenic of commerce, a deadly poison, and yet, in proper quantities, a useful medicine.

Arsenic is found in the native state, but the most common ores are those in which it is combined with other metals, especially with cobalt, iron, and silver. United with one proportion of sulphur, it forms the brilliant red mineral called *realgar;* with another proportion, the bright golden yellow substance called *orpiment*. In combination with a larger proportion of oxygen than the white oxide has, this metal forms a peculiar acid, called the arsenic acid; it is frequently combined with iron, lead, copper, earths, &c., forming beautiful minerals, called arseniates. All the ores are confined to the older rocks. The chief supply is from those parts of Norway, Sweden, and Saxony, where cobalt-ores are smelted.

What is commonly called arsenic, which is the white oxide, is composed of about 75 per cent. of arsenic and 25 of oxygen. It is prepared by heating the ores in a strong cast-iron box, provided with a conical head of the same metal, into which the fumes of the metal rise, combining with the oxygen of the air, and are condensed; and this first product is purified by a second sublimation of the same sort. The chief consumption of it is in the manufacture of glass. Metallic arsenic has no deleterious effect upon the human body.

Chromium

Was discovered by the French chemist Vauquelin, in an ore of lead from Siberia, in the year 1797, and he gave it that name from a Greek word (*chroma*), signifying colour: a single grain of some preparations gives a perceptible tint to three quarts of water. When obtained pure, it is a metal of a greyish-white colour, having a specific gravity of about 5·00, being extremely brittle, and very difficult of fusion. When united with oxygen it forms a peculiar acid, and combinations of this acid with lead and iron are the only forms in which the metal is found.

The only use of this metal is as a colouring body. The beautiful paint called *chrome yellow* is a compound of chromic acid and oxide of lead; and another preparation with lead produces a powder of a beautiful red colour, which, as well as the yellow, is a durable paint, and a valuable material in dyeing and calico-printing. Oxide of chromium tinges glass of a beautiful emerald-green colour.

(*From a Series of Papers in the 'Penny Magazine.'*)

THE DAIRY.

Cattle.

In its most extensive sense the word cattle denotes all the larger domestic quadrupeds, which are used for draught or food. In the usual acceptation of the word it is confined to the ox, or what is called black cattle or horned cattle. But as many varieties are not black, and several have no horns, the name of *neat cattle* is more appropriate. The rearing and feeding of cattle form a very important branch of agricultural industry. Much of the success of a farmer depends on the judicious management of live stock, without which his land cannot be maintained in a proper state of fertility. The breeding and fattening of cattle are generally distinct occupations. It is of the greatest importance to the breeder, as well as to the grazier, to ascertain the qualities of each breed of cattle; to determine which is best suited to his purpose, and which will bring him the greatest profit.

The domestic bull and cow are probably of Asiatic origin. In those countries where they are now found in a wild state, they are the descendants of domestic animals which have been let loose, or have strayed from the habitations of man. The *Urus*, which ranged wild in the Hercynian Forest, and was a dangerous enemy to those who encountered him, appears to have differed little from the common bull. If he was an indigenous wild animal, he was perhaps the original stock from which our different European varieties have sprung. This, however, is denied by naturalists, who consider him a distinct species. The small Hindoo ox, with a hump on the chine, and the African Cape ox, which is used for riding as well as draught, and has no hump, are both more nearly allied to the buffalo. They are very tame, and more intelligent than the generality of our oxen. Of the cattle on the Continent of Europe, one of the principal breeds is that of the Ukraine. The oxen of this breed are large and strong, and fatten readily in good pastures. Their flesh is succulent and well tasted; but the cows do not readily allow themselves to be milked, and consequently are not fit for the dairy. The colour is generally a light grey, seldom either black or white. They are docile when worked; but they are not considered so hardy and strong as the Hungarian oxen, which resemble them in colour, but are more compact, and have shorter limbs. The horns are large and spreading, which gives them a formidable appearance, and, compared with the more improved and carefully bred cattle, they are heavy and coarse. When they are stalled in winter on hay and roots, they bring a considerable profit by fattening very soon. They are driven in herds from the extensive plains in which they are bred, and sold to graziers in Germany.

In the plains of Jutland, Holstein, and Schleswig, there is a very fine breed, with small short crooked horns, which appears to be nearly allied to the Friesland and to our own Holderness breed. They are of various colours; but mouse or fawn colour, interspersed with white, is the most common. They are good milkers in moderate pastures, and the oxen fatten readily when grazed or stall-fed at a proper age. They are fine in the horn and bone, and wide in the loins; but they are not considered so hardy and strong for labour as the preceding breed. If prejudice did not make the breeders select the calves with large bone and coarse features to rear as bulls, in preference to those which resemble the cows, this breed would in every respect equal our best short horns. The cows are frequently fattened while still in milk, and are fit for the butcher by the time they are dry; the same system is followed by the great milkmen in the neighbourhood of London, with their large Holderness cows. This breed is much esteemed in all the northern parts of Europe. The Friesland, Oldenburg, Danzig, and Tilsit cattle, are mostly varieties of this short-horned breed.

Towards the Alps the cattle have a different character; they are strong and active, and can range wider in search of pasture. The largest and finest breed is the Swiss, especially the Freyburg race, which is found in the rich pastures between the mountains in the neighbourhood of Greyerz (Gruyères), a place well known for its excellent cheese. The cows, which are here the principal object of attention, are large and wide in the flanks, and strong in the horn—(we should rank them in England among the middle-horns)—short and strong in the bone, with a prominence at the root of the tail. They give abundance of rich milk when ranging in their native Alps, or when stalled or fed with clover or lucern in the stables. The oxen work well, but are rather heavy and slow. When fed off they fatten well; and although fat meat is not much prized there, some carcases may be seen slaughtered in Bern and Freyburg which are equal to those in the best English markets.

There is a smaller, but very active mountain breed of cattle in the Jura, which does well on scanty food. The cows are small and slight, and generally of a light red colour. The oxen are very active and strong for their size. They draw invariably by the horns. They are not considered so profitable for stall-feeding as the larger, but they are excellent for the small cottagers on the borders of the mountains, and find their sustenance among the woods and rocks, where they climb like goats.

The Norman breed gives the character to all the cattle usually met with in the northern part of France, except near the Rhine. They are mostly of a light red colour, sometimes spotted with white. Their horns are short, and stand well out from the forehead, turning up with a black tip; the legs are fine and slender, the hips high, and the thighs thin. The cows are good milkers, and the milk is rich. They are in general extremely lean, which is owing in a great measure to the scanty food they gather by the sides of roads, and along the grass balks which divide the fields. In Normandy itself they have good pastures, and the cattle are larger and look better. The Alderney and Jersey breeds, which, from the extreme richness of their milk, are much prized in gentlemen's dairies in England, are smaller varieties of the Norman, with shorter horns, more turned in, and in a still more deer-like form.

The Italian breeds are not very remarkable, except from the immense length of the horns of some of them. No great pains are taken to improve them, except in some parts of the north of Italy, where the Parmesan cheese is manufactured: there they resemble the Swiss breed.

The different British and Irish breeds have been generally distinguished from each other by the length of the horn. The long horned breed is supposed by many to be indigenous; others consider the middle-horned as the old breed. The former was chiefly found in a district of Yorkshire, called Craven, and was greatly improved by the skill of Robert Bakewell, of Dishley Farm, in Leicestershire, and hence they are called the Dishley breed. The distinguishing character of this breed is long horns growing downwards from the side of the head, and ending in straight points parallel to the jaw. In order to give an adequate idea of the qualities of this improved breed, we must consider what breeders and graziers call the fine *points* of an ox. These are certain forms and appearances, which are either anatomically connected with a perfect conformation of the body, and especially of the organs of respiration and of digestion, or which are constantly associated with the peculiar qualities of certain breeds, so as to be proofs of their purity. Of the first kind are a wide chest, well-formed barrel, strong and straight spine, hip-bones well separated, and length of quarter, all which can be proved to be essential to the perfect functions of the body. Small and short bones in the legs give firmness without unnecessary weight. A thick skin, well covered with hair, insures proper warmth, and its soft loose feel indicates a good coat of cellular substance underneath, which will readily be filled with deposited fat. All these are indispensable points in an ox which is to be profitably fatted, and whatever be the breed, they will always indicate superiority. Other points, such as colour, form of the horns, shape of the jaw, and setting on of the tail, with other particulars, are only essential in so far as experience has observed them in the best breeds, and as they are indications of pure blood. The eye is of great importance; it should be lively and mild, indicating a healthy circulation, with a gentle and almost indolent temper. An animal that is not easily disturbed will fatten rapidly, while one that is restless and impatient will never acquire flesh. In some of our best breeds there is scarcely any dewlap. The rump of the Freyburg cows, as we observed before, rises high towards the tail; while a straight back from the neck to the tail is indispensable in a well-bred British ox.

When a breed is established, which has many superior qualities, the object is to maintain its purity; and to those who cannot ascertain the parentage, certain marks are satisfactory proof of purity of blood. The new Leicester long-horn oxen were noted for the smallness of the bone and their aptitude to fatten. Their flesh was fine-grained, the fat being well intermixed in the muscles. At the time when Bakewell died, about 1795, no other breed could be brought into competition with his improved long-horns. But whether his successors have not paid the same attention to keep up the qualities of the breed, or it has degenerated in comparison, they have since lost much of their reputation, and the short-horned breed has now the superiority. Good long-horned cattle are, however, occasionally seen in the midland counties. One defect of the breed was, that the cows gave little milk, and this may be the reason for now preferring the short-horns. The Teeswater or Holderness breed of cattle was produced by the importation of cows from Holstein or Holland, and careful breeding and crossing. They now much excel the original stock. The principal improver of the Teeswater breed was Mr. Charles Collins. By his care a breed has been produced which is unrivalled for the dairy, and for fattening readily. Almost every good breed now in existence traces its pedigree to his bulls, especially one of the first that he used, called *Hubback*. The famous ox exhibited 30 years ago, under the name of the Durham ox, was of this breed. By careful crossing with a Galloway cow, an improved breed was produced, which was in such repute that at a sale of Mr. Collins's stock of short-horns, October 11, 1810, a famous bull, called Comet, sold for 1000 guineas, and 48 lots of bulls, cows, and calves realized 7115*l.* 17*s.* ('Library of Useful Knowledge,' 'Cattle,' p. 233). The short-horn cattle are mostly light coloured, and some quite white, but most of them are speckled with red and white, without any large distinct spots. The horns are very short; and in the cow the points turn inwards towards each other. Some of the finest bulls have merely a tip of a horn standing out from each side of the forehead. In the carcase they have every point which is essential to perfection.

Besides the two breeds above mentioned, there are several in great repute in particular districts, which almost dispute the superiority with the short-horns. Of these the Devonshire breed is the handsomest. The colour of this breed is invariably red, with a very fine head, small bone, and glossy hide. The oxen, although not so heavy as some, are the best for the plough on light lands; they walk nearly as fast as horses, and will work almost as well in pairs. The cows are good milkers, any deficiency in quantity being made up by the richness of the cream. The oxen fatten readily, and their flesh is of the best quality.

The Sussex breed is only distinguished from the Devon by being rather stronger, and not so fine in the head and horn.

The Herefordshire breed is larger and heavier than either of the preceding, the horns longer and more turned outwards; the colour is red, but the belly and the face are generally white, and there is often a white stripe along the back. This breed has many excellent qualities, and fattens well; but the cows are of little use for the dairy, from the small quantity of milk which they yield. The Herefordshire oxen are best suited to the rich pastures of their native county, where they grow to a great size and increase fast. These are the principal English breeds. Of the Welsh breeds, the Glamorganshire cows are in good repute for the dairy; they are of a dark brown colour with a white stripe along the back, long white horns pointing rather forwards and upwards; the tail is set on rather high above the back, which is thought a defect. The other Welsh breeds are distinguished chiefly by their hardy constitution, which they owe to their having been bred in mountainous districts. Great droves of them come to all the English fairs; their low price and small expense of keep render them an object worthy the attention of cottagers and small farmers; they are best calculated to run on rough heaths and commons.

The principal indigenous Scotch breeds are the West Highland, the Galloway, the Angus, and the Shetland. There is a doubt whether the Ayrshire should be classed among the pure Scotch cattle. Their great resemblance to the short-horn in all except the size leads one to suppose that they are a cross of a smaller breed by a short-horn bull, but they have very good qualities, and are excellent for the dairy or for stalling.

A great many cattle are bred in the islands on the west coast of Scotland. They are mostly of a small black breed, called Kyloes. They are very hardy, and, when brought into good pasture, fatten rapidly and produce the finest and best flavoured beef. They are found in the greatest perfection in the Isle of Skye, and are sent annually in large droves to Scotland and England. They are particularly in request in Norfolk, Suffolk, and Essex, where they are wintered on turnips, and sent to Smithfield in the spring and summer following. If they do not produce so great a weight of beef as many other breeds, they always bring the highest price in the market, and require a very short time to get fat. The Galloway is a peculiar breed, which has many good qualities: it has no horns; the body is compact, and the legs short; and few breeds can vie with the Galloway oxen and heifers in aptitude to fatten. There is a peculiar roundness in all the parts of the body, which makes the animal look well in flesh, even when he is lean. The skin is loose, and the hair soft and silky to the touch. They are mostly black. Many of the Galloway heifers are spayed, and get very fat at an early age. The Galloway cows are not very good milkers, but their milk is rich.

The *Angus doddie* is a polled breed, and has been long in repute. It is probably a variety of the Galloway, to which it bears a strong resemblance, but it has been found in Angus from time immemorial.

The Shetland cattle are very diminutive and coarsely shaped, but their flesh is well flavoured. They are seldom driven into England or the south of Scotland, because when fat they attain a very small weight. The breed is, however, worth the notice of experimental agriculturists.

The Aberdeenshire and Fifeshire breeds are horned, and have been produced by various crosses with short-horns and other English breeds. All the Scotch breeds have been greatly improved by the premiums given by the Highland Society for the encouragement of breeding.

Of Irish cattle, the small Kerry cow seems to be purely native. It is a useful breed for cottagers, requiring only moderate keep and care, and giving a considerable quantity of milk in proportion to the size of the animal and the food which it requires. The best Irish cattle are produced by crosses with the improved Leicester long-horns.

These are the principal breeds of cattle in the United Kingdom. By selecting those which are best suited to each situation and pasture, the industrious farmer may add considerably to his profits, and at the same time enrich his land with the manure. In purchasing cattle it is very necessary that the age should be readily ascertained; the surest mode of doing which is by examining the teeth. A calf has usually two front teeth when he is dropped, or they will appear a day or two after his birth; in a fortnight he will have four, in three weeks six, and at the end of a month eight. After this, these milk-teeth, as they are called, gradually wear and fall out, and are replaced by the permanent teeth. At two years old the two middle teeth are replaced; the next year there will be four new teeth in all: at four years there are six permanent teeth, and at five the whole eight are replaced. The milk-teeth do not always fall out, but are sometimes only pushed back by the second set; and in this case they should be removed with an instrument, as they impede mastication and irritate the mouth. After six years old the edges of the teeth begin to wear flat, and as they wear off, the root of the tooth is pushed up in the socket, and the width of the teeth is diminished, leaving interstices between them: this begins in the middle teeth, and extends gradually to the corners. At ten years old the four middle teeth are considerably diminished, and the mark worn out of them. After fifteen years of age few cows can keep themselves in condition by pasturing; but they may continue to give milk or be fattened by stalling and giving them ground food. Horned cattle have rings at the root of the horns, by which the age may also be known. The first ring appears at three years of age, and a new one is formed between it and the skull every year after. But this mode of ascertaining the age is not so sure as by the teeth, deception being much easier by filing off the rings.

In order to learn by experience what breed of cattle is most profitable, it is very advantageous to weigh them occasionally and note their increase. For this purpose several simple and ingenious weighing machines have been invented. For want of better, a strong kind of steel-yard may be made of a young fir-tree, about twenty feet long, suspended from a strong beam by a hook fixed about a foot from the thickest end, to which attached another hook, from which descend strong flat hempen bands, forming two loops joined together by iron rings. These are put under the belly and chest of an ox, and a weight hung at the smaller end of the pole, just sufficient to lift him off his legs, readily gives his live weight. Experience has shown the proportion between the saleable quarters and the offal in different states of fatness; and tables have been constructed by which the net weight is found by mere inspection. Multiplying the live weight by 0·605, gives a near approximation to the net dead weight in an ox moderately fat and of a good breed. When an ox is fat, his weight may be very nearly ascertained by measuring his girth immediately behind the fore legs, and the length from the tip of the shoulder to the perpendicular line which touches the hinder parts, or to a wall against which the animal is backed. The square of the girth in inches and decimals is multiplied by the length, and the product multiplied by the decimal ·238. This gives the weight of the four quarters in stones of 14lbs. This rule is founded on the supposition that there is a certain proportion between the net weight of the quarters and that of a cylinder the circumference of which is the girth, and the axis the length taken as above. The proportion has been ascertained by observation and repeated comparison. The process will at all events indicate the proportional increase during the period of fattening.

Cattle are not subject to many diseases if they have plenty of food and good water and are kept clean. Air is essential to them, and although cows will give more milk and oxen will fatten better when kept in warm stalls in winter, they are less subject to diseases when they are kept in open yards with merely a shelter from the snow and rain.

The most economical mode of feeding cattle is by allowing them to seek their food on commons and uncultivated pastures; but it is only in particular situations that it is the most advantageous. Cattle fed on commons add little to the stock of manure, except when they are kept in the yards or stalls in winter; even then their dung is of little value if they are merely kept alive on straw or coarse hay, as is generally the case where the stock is kept on commons or mountains in summer. When they feed in inclosed and rich pastures, their dung falling in heaps on the grass does more harm than good. The urine fertilizes the soil in wet weather when it is diluted, but in dry weather it burns up the grass. If we calculate what would be the amount of dung collected if the cattle were kept in yards or stables, and fed with food cut for them and brought there, and also the loss of grass by treading on the pastures, we shall have no doubt whether the additional labour of cutting the grass and bringing it home daily is not amply repaid by the saving. But if we also take into the account the variety of artificial grasses, pulse, and roots which may be grown with advantage on land unfit for permanent grass, and the quantity of arable land which may thus be kept in the highest state of cultivation, we shall be convinced that the practice of those countries where the cattle are constantly kept at home is well worthy of imitation. It may be of use to the health of the animals to be allowed to take a few hours' exercise in a pasture near the stable; but there is no advantage in their having any grass crop there: on the contrary, the barer of grass the surface is, the better. They will relish their food better when they are taken in after a few hours' fasting. A bite of fresh short grass might, on the contrary, give them a dislike to their staler food. When cut grass is given to cattle in the stalls, it is best to let it lie in a heap for at least twelve hours before it is given to them. It heats slightly, and the peculiar odour of some of the plants, which oxen and cows are not fond of, being mixed with that of the more fragrant, the whole is eaten without waste. Experience has shown that many plants which cattle refuse in the field have nutritious qualities when eaten with others in the form of hay. There are few deleterious plants in good grass land or water-meadows, and these are readily distinguished. The quantity and quality of the dung of cattle stalled and well fed are so great that its value makes a considerable deduction from that of the food given; especially of green food, such as clover, lucern, tares, and every kind of leguminous plant: we shall not be far wrong if we set it at one-fourth. This supposes a sufficient quantity of straw for litter, and an economical collection of the liquid parts in proper reservoirs or tanks. In order to make the feeding of cattle advantageous, the buildings must be conveniently placed with respect to the fields from which the food is to be brought. Moveable sheds with temporary yards, which can be erected in different parts of a large farm, according as different fields are in grass or roots, are a great saving of carriage, both in the bringing the food to the cattle and carrying the dung on the land. A clay bottom should be selected, in a dry and rather high spot, if possible. But if permanent buildings for cattle, constructed of rough materials and thatched with straw, were erected in the centre of about forty acres of arable land, in different parts of a large farm, it would probably be a great saving in the end.

Good water is most essential to the health of cattle, and that which has been some time exposed to the air seems the best for them. When they are fatted in stalls on dry food, they should always have a trough of water within reach. A piece of rock-salt to lick, or some salt given with their food, is highly conducive to their health, and will restore their appetite when it begins to flag. Rubbing the hide with a wisp of straw or a strong brush, as is done to horses, may appear a useless labour, but it is well known that there is no better substitute for that exercise which is essential to health. Where labour is not regarded, the curry-comb and the brush are in regular use.

It can never be too much impressed upon agriculturists, that without dung there is no corn; without cattle there is no dung. Every means should therefore be used to encourage the breeding and feeding of cattle: the profits of a farm are always proportioned to the quantity of cattle kept, and the abundance of the food provided for them.

Cow.

We now proceed to describe the proper management of a cow, so as to make her most productive; and we shall notice the most common diseases to which this animal is subject.

Where only one or two cows are kept, especially where they are to be maintained on a limited portion of pasture, it is of great importance that a good choice be made when they are purchased or reared. Some breeds are certainly much superior to others; but as a general rule, there is a better chance of having a profitable cow if she be reared on the land on which she is to be kept. When the common breed of the country is decidedly inferior, it may be profitable to bring a cow from a distance, in which case it should be from some district of which the pasture is rather inferior to that to which she is brought, or at least not better. The best breeds are found in the richest pastures, but they do not thrive on worse. On poor land a small active cow will pick her food and keep in condition, where a fine large cow would starve, or at least fall off rapidly. This is particularly the case in the mountains, near the tops of which no domestic animal will live but the goat, and next to it the smallest breed of cows. Where the pastures are poor but extensive cows give little milk, and the number which can be kept must make up for the produce of each. Where, on the other hand, cows are stalled, as in Flanders, and fed on artificial food brought to them in sufficient quantity, large bulky cows give the best return for the food; at least this seems to be the opinion of the Flemish farmers in general. In France, where the cows are led along the roads to pick up the herbage growing by the roadside, or are tethered on a small portion of clover or lucern, a small lean cow is preferred; and in general the cows commonly met with, and which are bred in each district, seem the best adapted for the mode in which they are fed. Whatever be the breed or quality of a cow she should always have plenty of food, without which no considerable produce in milk can be expected. This food should be succulent as well as nourishing, or else fat will be produced instead of milk. A cow well fed may be safely milked till within a month of her calving. It is better that she should be dry before the new milk begins to spring in her udder. A little attention will readily prevent her becoming dry too soon, or being milked too long. Heifers with their first calf should be allowed to go dry sooner than older cows, because their growth would be impeded by the double drain of the milk and the calf. It is best to let heifers go to the bull when nature prompts them to it, provided they are not less than 15 or 18 months old; for if they are thwarted in their first heat they are apt to become irregular ever after; and it is advantageous for a cow to calve regularly at the same season of the year. The best time is May, when the grass begins to be succulent. In some countries, such as Switzerland, the cows calve regularly in April or May, and are then sent to the pastures among the mountains. The calf is killed almost immediately, unless it be reared for stock, veal being of little value.

A cottager with two or three acres of moderate land may keep a cow, and thus add much to his earnings as a labourer. For this purpose he will require a small portion of permanent grass fenced off, to allow the cow to take exercise, which is necessary to her health. Her food must be raised in regular succession, and cut for her. The earliest green food is rye; then tares; then clover—which may be made so to succeed each other as to give an ample supply. Cabbages, beet-root, parsnips, potatoes, and turnips will continue the supply during winter; and the dung and urine of the cow carefully collected will be sufficient to keep the land in condition. This system, lately introduced into some parts of Ireland, has already greatly improved the condition of the industrious poor. There is very good advice on this management in Cobbett's 'Cottage Economy.'

Where cows are allowed to be in the open air, with proper shelter in case of stormy and wet weather, they are subject to few diseases. They must be carefully looked to at the time of calving, but except in urgent cases nature must be allowed to perform her own office. A little common sense and experience will soon teach the possessor of a cow to assist nature, if absolutely necessary; and in case of difficulties the safest way is to call in an experienced person. Drinks and medicines should be avoided; a little warm water, with some barley or bean meal mixed with it, is the most comfortable drink for a cow after calving. The calf, and not the cow, should have the first milk, which is adapted to purge its intestines of a glutinous substance which is always found in the new-born calf.

A very common disease with cows is a disordered function of the liver, producing a yellowish tint in the eyes, and sometimes in the skin. A gentle purge, consisting of half a pound of Glauber salts, an ounce of ginger, and two ounces of treacle, with two quarts of boiling water poured over them, may be given when it is milk-warm, and repeated every other day; the cow should be kept warm, if it be in winter, by a cloth over the loins, and in a shed. This will in general restore her health. Should the cow appear to have a chronic affection, the safest course for a cottager is to part with her at any price to those who may be better skilled in curing diseases; for it is seldom that a cow is worth the expense of the farrier's attendance in such cases. The symptoms of a diseased liver or lungs in a cow are leanness, with a staring coat, a husky cough with loss of appetite, a difficulty of breathing, and a great diminution in the secretion of the milk. The first loss by the sale of the cow is always the least in the end. In accidents or acute diseases the attendance of a clever veterinary surgeon is indispensable.

Nothing is more untrue than the notion that medicines are necessary to maintain cows in health; and the practice of keeping advertised medicines at hand to give to an animal whenever it is fancied to be ill, is very detrimental to their health. Attention to food and exercise, giving the first regularly and in moderate quantities at a time, and allowing the cow to use her own judgment as to the latter, are the great means of health; and a healthy young cow reared at home, or purchased of a conscientious dealer, will probably live to old age without ever having had any disease. A cow is old and unprofitable when she reaches 12 or 14 years. She should then be sold and a young one purchased. If the cottager have the means of rearing a cow-calf to succeed the old mother he will do well; if not, he must lay by a portion of the cow's produce every year to raise the difference between the value of the old cow and a young one. The saving banks are admirable institutions for this purpose: a few shillings laid by when the produce of the cow is greatest, will soon amount to the sum required to exchange an old one for a younger.

Calf.

The rearing and fattening of calves is a very important part of rural economy. In the dairy districts the milk is so valuable, that calves are got rid of as soon as possible. In some countries they are killed when only a few days old, and the flesh is of little value, being very soft and tasteless. In others the flesh of very young calves is considered unwholesome, and penalties have been imposed on those who kill a calf before a certain age. This is the case in France and Switzerland, where ten days is the earliest time at which a calf is permitted to be killed for sale.

In England calves are suckled with great care, and allowed to take as much milk as they can swallow, in order to make them fat, and their flesh white, firm, and delicate. The price at which a fat calf is sold, when 10 or 12 weeks old, is often much greater than he would fetch at 12 months, if reared in the common way. It is chiefly in the neighbourhood of large towns that the practice of fattening calves is profitable. The calf-dealer buys calves in the dairy districts, and sells them again to those who suckle them. The animals are carried to a great distance in carts made purposely flat and shallow, their four feet tied firmly together, and their heads hanging over the back and sides of the cart. In this position they remain whole days without food or drink, and when they arrive at the place of sale they are so weak and attenuated that many of them die; and all of them require the greatest care and attention for several days before they recover sufficient strength to bear their natural food. If they are allowed to satisfy their appetite at first they invariably *scour*, that is, purge violently, and die. If the strong astringent medicine sold in the shops for the scouring in calves is given to them in this weak state, it only accelerates their death. The best remedy is to boil the milk for them, and give them little at first; to mix some starch or arrow-root with it, and to give them a raw egg beat up in milk. This restores the strength of the stomach, and generally cures them. When the calf begins to thrive on the milk which he sucks, or which is given him warm from the cow, nothing more is necessary than to keep him extremely clean and dry, to give him plenty of air, but not much light, and never to disturb him between his meals, which are generally twice in the day, at the usual time of milking the cows. Where it can be conveniently done, it is better to let them suck three times a day. If one cow does not give sufficient milk to satisfy the calf when he begins to get large, another cow must be at hand. Where a number of calves are fattened at once, and no butter or cheese is made, the number and age of the calves must be regulated by the number of cows and the quantity of milk which they give, so that there shall be milk enough for all.

The calf-pens should be made like narrow stalls, each for the accommodation of only one calf, just wide enough to allow him to lie down, but not to turn about and lick himself, which, if it become a habit, will much retard his progress in fattening. The bottom of the pen should be paved with brick, and washed clean morning and evening,—or it should be boarded; the boards should be six inches from the ground, and have holes bored in them to let the urine drain through. A piece of chalk or powdered limestone is frequently put in a small trough, which the calf licks, and thus corrects the acidity which is apt to be generated in the stomach. When the calves are taken out of their stalls to suck the cows, if they appear not to have much appetite a little salt may be rubbed into their mouth, and they may occasionally have a raw egg put down their throat. At five or six weeks old, if a little sweet hay is tied in a small bundle with a string and hung before them, they will pick a little of it; and by thus exciting the saliva the digestion will be assisted. It is only by minute attention that the suckling of calves can be made more profitable than the making of butter or cheese.

Calves should be fat by eight or nine weeks old, and it is seldom advisable to keep them above 12 weeks. When they get large they take a much greater quantity of milk, in comparison with what they do at seven or eight weeks old, to produce the same increase of flesh. A calf of 16 or 18 stones (eight pounds to the stone) the four quarters, and well fatted, will always sell better than one that is larger.

When milk is scarce, and the calves have not enough to satisfy them, it may be necessary to give them some substitute, such as meal mixed with warm milk, or balls of meal and water with a little gin in them, which makes them drowsy. Linseed made into a jelly with boiling water and mixed with warm milk is given by some, or powdered oil-cake. All these substitutes can only be recommended when the milk fails. The best plan, in such a case, is to sell the largest calves and reduce the number. To know the weight of the four quarters of a calf when killed, take the live weight and multiply it by 0·6. Thus if a live calf weighs 200 pounds, his four quarters when he is killed will weigh 200 × 0·6 = 120 pounds.

When calves are intended to be reared for grazing or for the dairy, the most perfect individuals should be chosen. They should be well examined, especially the cow calves, to ascertain whether they have a perfect udder and teats, a broad pelvis, and good lungs. If any deficiency appears, they ought to be sold or fattened. They should be allowed to suck the mother three or four days, but no more, and then be taught to drink milk out of a pail. This is soon accomplished by gentleness and care. Should there be any difficulty in teaching a calf to suck with the hand in the usual way, a wisp of twisted straw is put into the pail and one end of it in his mouth. This seldom fails to bring him to drink. When the calf is a week old, skimmed milk which has been boiled and allowed to cool again, so as to be milk-warm, may be given him. After a time this may be diluted with water, and a little meal stirred into it; or some thin gruel may be made to which skimmed milk is added. Carrots or turnips make an excellent food for calves, especially if they are boiled with cut hay, and given warm. In this way calves may be reared with very little milk, till they can live on grass alone. A bull-calf not intended to be kept as a bull may be castrated when three months old.

The diseases of calves are chiefly *scouring* and *constipation*; for the first, if the calves are strong, the following recipe is recommended by Clater, and appears likely to remove the complaint:—prepared chalk four ounces, crabs' eyes two ounces, white powder of burnt bones two ounces. These ingredients are pulverised and well mixed, and a large table-spoonful of the powder is given in a pint of new milk every night and morning before the calf is fed, until the purging ceases. For costiveness the following is a good and safe remedy:—castor-oil one ounce, prepared kali half a drachm, ginger in powder one tea-spoonful. Mix these for a dose, and give it in half a pint of warm milk.

Butter.

Butter is the fat or oleaginous part of the milk of various animals, principally of the domestic cow. The milk of the cow is composed of three distinct ingredients, the curd, the whey, and the butter; the two first form the largest portion, and the last the most valuable. The comparative value of the milk of different cows, or of the same cows fed on different pastures, is estimated chiefly by the quantity of butter contained in it; and in this respect some breeds of cows are far superior to others. The union of the component parts of milk is chiefly mechanical, as they separate by subsidence according to their specific gravities, the cream being the lightest, and the curd the heaviest; the curd, however, requires a slight chemical change for its separation from the whey, which at the same time produces a peculiar acid called the lactic acid. From the moment that milk is drawn from the cow it begins to be affected by the air and changes of temperature, and circumstances almost imperceptible to our senses will materially affect its quality: hence the importance of extreme care in every step of the process of the dairy, especially in making butter.

The cows should be milked in the cool of the morning and evening; they should not be much driven immediately before milking, and it is best to bring them to the place of milking some time before the operation begins. In some situations it is better to milk them in the pastures and carry the milk home; in others to drive the cows gently to the cow-stall. In mountainous countries the first mode is generally adopted, because the cows are apt to leap down steep places, and shake the milk in their udder more than is done by carrying it in the pail. The same practice holds good in Holland from another cause, which is the distance of the pastures from the homestall and the facility of transporting the milk in small boats, all the best pastures being surrounded by small canals communicating with the greater; thus the milk may be carried several miles without the least agitation. In England, where the pastures frequently surround the habitation of the dairyman, the cows are generally driven home twice a-day to be milked. As the slightest acidity or putrescence immediately causes an internal chemical action in milk, it is of the utmost importance that the place where the cows are milked, and the persons employed, should be of the greatest purity and cleanliness. The milking-house should be paved with stone or brick, and no litter or dung be permitted to remain there. It should be washed out twice a-day, immediately before each milking. The teats of the cows should be washed clean with water and a sponge.

As soon as the milk is brought into the dairy, it is strained through a fine sieve or cloth, and it is then poured into shallow pans or troughs lined with lead. The best pans are of metal, either of iron, carefully tinned, or of brass. Such pans are cool in summer, and in winter allow of the application of heat, which is often very useful to make the cream rise. When leaden troughs are used they are generally fixed to the wall, and have a slight inclination towards one end, where there is a hole with a plug in it, by drawing which the thin milk is allowed to run off slowly, leaving the cream behind, which runs last through the hole into the pan placed under to receive it. The milk in the pans or troughs is generally four or five inches in depth, which is found most conducive to the separation of the cream. The place where the milk is set should have a thorough draft of air by means of opposite wire windows. The sun should be carefully excluded by high buildings or trees, and the floor, which should always be of brick or stone, should be continually kept moist in summer, that the evaporation may produce an equal cool temperature. A small stove in winter is a great advantage, provided smoke or smell be most carefully avoided, and the temperature be carefully regulated by a thermometer. In Switzerland men are chiefly employed to milk the cows, and in all the process of the preparation of butter and cheese. The women only clean the utensils, and carry green food to the cows when they are kept in the stable. When the milk has stood twelve hours, the finest parts of the cream have risen to the surface, and if they are then taken off by a skimming dish, and immediately churned, a very delicate butter is obtained; but in general it is left twenty-four hours, when the cream is collected by skimming, or the thin milk is let off by taking out the plug in the troughs. All the cream is put into a deep earthen jar, which should be glazed, but not with lead; stone ware is the best. More cream is added every day till there is a sufficient quantity to churn, which in moderate dairies is every two days. It is usual to stir the cream often, to encourage a slight acidity, by which the process of churning is accelerated. This acidity is sometimes produced by the addition of vinegar or lemon-juice; but however this may facilitate the conversion of the cream into butter, the quality is decidedly injured by it, especially butter which is to be salted. It has been asserted by some authors that butter will not separate from the butter-milk until acidity is produced, and, no doubt, there is more or less of lactic acid in all butter-milk; but perfectly fresh cream, which has stood only one night and is churned early next morning, will generally produce excellent butter in a quarter of an hour or twenty minutes in summer, and no acid taste can be discovered in the butter-milk. The change by which the butter is separated in a solid form is accompanied by the development of heat in churning.

The common method employed to separate the butter from the thinner portion of the cream is by strong agitation. In small quantities this may be done in a bottle; but the common instrument is the *churn*, which is a wooden cask rather wider at bottom than at the top, covered with a round lid with a hole in the centre. Through this hole passes a round stick about four feet long inserted in the centre of a round flat board with holes in it: the diameter of this board is a little less than that of the top of the churn. Various improvements have been made on this machine. The cream should not fill above two-thirds of the churn. By means of this stick held in both hands and moved up and down, the cream is violently agitated, passing through the holes in the board and round its edge every time the stick is raised or depressed, and thus every portion is brought into contact with the air. In the course of an hour's churning, more or less according to circumstances, small kernels of butter appear, which are soon united by the pressure of the board against the bottom of the churn, and form a mass of solid butter. The butter is collected with the hand, and placed in a shallow tub for the next operation. The butter-milk is set aside for the pigs, or for domestic use. The butter is still mixed with some portion of butter-milk, but much of its quality for keeping depends on their perfect separation. The most usual way is to spread it thin in a shallow tub, beating it with the hand or a flat wooden spoon, and washing it repeatedly with clear spring water until all milkiness disappears in the water which is poured off. Some experienced dairymen pretend that the butter is deteriorated by much washing, and therefore they express the butter-milk by simply beating the butter with the hand, kept cool by frequently dipping it in cold water, or with a moist cloth wrapped in the form of a ball, which soaks up all the butter-milk, and leaves the butter quite dry. This operation requires the greatest attention, especially in warm weather, and no person should work the butter who has not a very cool hand. The less it is handled the better, and therefore a wooden spoon or spatula is much to be preferred.

When it is entirely freed from the butter-milk and of a proper consistency, it is divided into portions of the weight required, if it is intended to be sold fresh. But the greatest part of the butter that is made, especially at a distance from large towns, is immediately salted and put into casks, which usually contain fifty-six pounds, and are called firkins. The quality of the salt used is of great importance; if it be pure, the butter will keep its flavour for a long time, but when it is impure and contains bitter and deliquescent salts the butter soon becomes rancid. The Dutch are very particular in this point. They use a kind of salt which is made by slow evaporation, and perfectly crystallised. The salt is intimately mixed with the butter. From 3 to 5 lbs. are sufficient for a firkin of 56 lbs.* The casks are made of clean white wood. They are carefully washed inside with strong brine made hot, and rubbed over with salt. The butter being quite dry is pressed close into the cask, a small layer of salt having been first put on the bottom. Every addition is carefully incorporated with the preceding portion. If there is not a sufficient quantity to fill the cask at once, the surface is made smooth, some salt is put over it, and a cloth is pressed close upon it to exclude the air. When the remainder is added, at the next churning, the cloth is taken off, and the salt, which had been put on the surface, is carefully removed with a spoon. The surface is dug into with a small wooden spade, and laid rough, and the newly-salted butter is added and incorporated completely. This prevents a streak, which would otherwise appear at the place where the two portions joined. When the cask is full some salt is put over it, and the head is put in. If the butter was well freed from all the butter-milk, and the salt mixed with it was quite dry, it will not shrink in the cask, and it will keep its flavour for a long time. Should there be an appearance of shrinking, the cask must be opened, and melted butter poured round it so as to fill up the interstices between the butter and the cask. There is a mode of preserving butter for domestic use without salt, in the following manner:—The butter is set in a clean pan over the fire and melted very gently; it is not allowed to boil, but is heated very nearly to the boiling point. Experience has shown this heat to be attained when the reflection of the white of the eye is distinctly seen on the surface of the butter on looking down into the pan. All the watery particles are then evaporated, and the curd, of which a portion always remains in the butter, and which is one cause of its becoming rancid, falls to the bottom. The clear butter is poured into an earthen vessel and covered over with paper; and a bladder or a piece of leather is tied over the jar to exclude the air. When it is cooled, it much resembles hog's lard. It has lost some of its flavour, but it is much superior to salt butter for culinary purposes, and especially for pastry.

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* The following mixture has been found superior to salt alone in curing butter:—half an ounce of dry salt pounded fine, two drams of sugar, and two drams of saltpetre, for every pound of butter.

The Devonshire method of making butter is peculiar to that county. The milk, instead of being set for the cream to rise, is placed in tin or earthen pans, holding about eleven or twelve quarts each. Twelve hours after milking, these pans are placed on a broad iron plate, heated by a small furnace. The milk is not allowed to boil, but a thick scum rises to the surface. As soon as small bubbles begin to appear where a portion of this scum is removed with a spoon, the milk is taken off and allowed to cool. The thick part is taken off the surface, and this is called *clouted cream:* it is a sweet pleasant substance, more solid than cream, but not so solid as butter; and is generally considered a dainty. A very slight agitation converts it into real butter; after which it is treated exactly as we have before described.

Another method of making butter, which is more generally adopted, is to churn the milk and cream together. This method is pursued in parts of Holland, Scotland, and Ireland, and is said to produce a greater abundance of butter from the same quantity of milk. In the Dutch method the milk is put into deep jars in a cool place, and each *meal*, or portion milked at one time, is kept separate. As soon as there is a slight appearance of acidity, the whole is churned in an upright churn, which, from the quantity of milk, is of very large dimensions. The plunger is worked by machinery moved by a horse, or sometimes by a dog walking in a wheel, which he turns by his weight. When the butter begins to form into small kernels, the contents of the churn are emptied on a sieve, which lets the butter-milk pass through. The butter is then formed into a mass, as described before.

It is an acknowledged fact, that such are the niceties of the dairy, that great experience alone can ensure a produce of superior quality, and this experience would be more readily acquired if the circumstances were accurately observed and noted. We would recommend to those who have extensive dairies to mark by the thermometer the temperature of the milk and cream in the different stages of the process; occasionally to test the acidity of the butter-milk by means of alkalis; and to note any peculiarity in the atmosphere by an electrometer. A few observations carefully noted, repeated, and compared, would throw more light on the true causes which favour or oppose the production of good butter, than all the guesses that have hitherto been made.

The quality of the butter depends materially on the nature of the pasture. The best is made from cows fed in rich natural meadows. Certain plants, which grow in poor and marshy soils, give a disagreeable taste to the butter. The common notion that the yellow flower called the butter-cup gives colour and flavour to butter is a mistake: cows never crop the flower if they can avoid it, and the whole plant is acrid and unpalatable. When cows are fed with cut grass in the stable, the butter is inferior, except in the case of some artificial grasses, such as lucern. Turnips and other roots given to cows in winter communicate more or less of a bad taste to butter, which is corrected in some degree by means of a small quantity of water and saltpetre added to the milk; and also, it is said, by giving salt to the cows with their food. But there is no butter made in winter equal to that which is made where the cows are fed entirely with good meadow hay, especially of the second crop, called aftermath hay, which contains few seed-stalks.

The yellow colour of fine May butter is frequently imitated artificially by mixing some ground arnotto root, or the juice of carrots, with the cream. This is easily detected by the taste of the butter, which is not improved by it, and has not the peculiar flavour of fine grass butter; but in other respects it is a harmless addition. Some cows give a much yellower cream than others, especially the Alderney cows; and the butter made from it is of a peculiarly fine flavour. When a cow has lately calved, the milk is also much yellower, but this soon goes off, if it be not the natural colour; and the butter made by mixing this with other milk, although of a deeper colour, is not improved by it.

According to the accounts of the produce of butter from different countries and various breeds of cows, we may state that, on an average, four gallons of milk produce 16 ounces of butter; and to make the feeding of cows for the dairy a profitable employment in England, a good cow should produce six pounds of butter per week in summer, and half that quantity in winter, allowing from six weeks to two months for her being dry before calving; that is, 120 lbs. in 20 weeks after calving, and 80 lbs. in the remainder of the time till she goes dry,—in all about 200 lbs. in the year. If she produces more, she may be considered as a superior cow; if less, she is below par. To produce this quantity the pasture must be good, and if we allow three acres to keep a cow in grass and hay for a year, which is not very far from the mark, the butter made will produce about 10*l.*, at the distance of 50 miles from London, if it is sold in a fresh state, and the calf about 15*s.* at a week old. This does little more than pay rent and expenses; the profit must be made by feeding pigs, or making skim-milk cheese.

The quality of the butter produced in England and in Holland is considered the best. A considerable quantity of Dutch butter is exported, but all that is produced in England is consumed at home, in addition to large quantities imported from Ireland and the continent of Europe. The quantity imported has been for some time progressively increasing.

	From Ireland.	From Foreign Countries.
	Cwts.	Cwts.
Ann. average of 3 years to 1790	198,110	
" 3 " 1800	215,100	
" 5 " 1805	225,187	107,169
" 5 " 1810	303,586	72,424
" 5 " 1815	330,635	67,450
" 5 " 1820	305,226	60,627
" 5 " 1825	422,883	150,332
" 5 " 1830	..	173,206
" 5 " 1835	..	134,846

No account of the importations from Ireland can be had later than 1825, the intercourse between the two islands having then been placed upon the footing of a coasting trade; and there is no statement of imports from foreign countries of an earlier date than 1801. In 1834, the latest year for which the accounts of the trade with different countries have been made public, the importations, which amounted to 133,871 cwts., were received from the following countries: viz., Russia, 1 cwt.; Denmark, 8846 cwts.; Prussia, 5 cwts.; Germany, 17,693 cwts.; Holland, 106,776 cwts.; Belgium, 526 cwts.; France, 2 cwts.; Italy, 4 cwts.; other countries, 18 cwts.: total, 133,871 cwts.

It is not possible to state the quantity of butter exported from the United Kingdom to our colonies and foreign countries, in consequence of the practice at the Custom-house of including butter and cheese in the same statement. The shipments of butter so made are entirely of the produce of Ireland. The chief customer is Portugal; next to that country Brazil takes the largest quantity; and about 40,000 firkins, or 1000 tons, are annually sent to the English West India colonies.

Cheese.

In the making of cheese there are certain general principles which are essential, but slight variations in the process produce cheeses of very different qualities; and although the most important circumstance is the nature of the pasture on which the cows are fed, yet much depends on the mode in which the different stages of the fabrication are managed; and hence the great superiority of the cheeses of particular districts or dairies over those of others, without any apparent difference in the pasture. In those countries where the cows are chiefly kept tied up in stalls, and are fed with a variety of natural and artificial grasses, roots, and vegetables, superior cheese is often made.

The first process in making cheese is to separate the curd from the whey, which may be done by allowing the milk to become sour; but the cheese is inferior in quality, and it is difficult to stop the acid fermentation and prevent its running into the putrefactive. Various substances added to milk will soon separate the curd from the whey. All acids curdle milk. Muriatic acid is used with success for this purpose in Holland. Some vegetables contain acids which readily coagulate milk, such as the juice of the fig-tree, and the flowers of the *Galium verum*, or yellow lady's bed straw, hence called *cheese-rennet*. Where better rennet cannot be procured, they may be substituted for the best curdler of milk, which is the gastric juice of the stomach of a sucking calf. This juice rapidly coagulates the milk as the calf sucks; and the only difficulty is in collecting and keeping it from putrefaction, which begins from the instant the stomach is taken from the calf. The preparation of the *rennet*, as it is called, is a most important part of the process of cheese-making. The following may be considered as the simplest, and perhaps the best. As soon as a sucking calf is killed, the stomach should be taken out, and if the calf has sucked lately, it is all the better. The outer skin should be well scraped, and all fat and useless membranes carefully removed. It is only the inner coat which must be preserved. The coagulated milk should be taken out and examined; and any substance besides curd found in it should be carefully removed. The serum left in it should be pressed out with a cloth. It should then be replaced in the stomach with a large quantity of the best salt. Some add a little alum and sal prunella; others put various herbs and spices, with a view of giving the cheese a peculiar flavour; but the plain simple salting is sufficient. The skins or vells, as they are called, are then put into a pan, and covered with a saturated solution of salt, in which they are soaked for some hours; but there must be no more liquor than will well moisten the vells. They are afterwards hung up to dry, a piece of flat wood being put crosswise into each to stretch them out. They should be perfectly dried, and look like parchment. In this state they may be kept in a dry place for any length of time, and are always ready for use. In some places, at the time of making cheese, a piece of vell is cut off, and soaked for some hours in water or whey, and the whole is added to the warm milk. In other places, pieces of vell are put into a linen bag, and soaked in warm water, until the water has acquired sufficient strength, which is proved by trying a portion of it in warm milk. The method employed in Switzerland is as follows:—A dry vell is taken and examined; it is scraped with a knife, and where any veins or pieces of tough membrane appear, they are removed. The whole surface is examined and washed carefully, if any dust or dirt has adhered to it; but otherwise it is only wiped with a cloth. A handful of salt is then put into it, and the edges of the vell are folded over and secured with a wooden skewer stuck through it. In this state it forms a ball of about three inches diameter, and is laid to soak 24 hours in a dish containing about a quart of clear whey, which has been boiled, and all the curd taken out. The next day the vell is well squeezed, and put into fresh whey; the first infusion being put into a proper vessel, the second is afterwards mixed with it, and bottled for use. Half a pint of this liquor of a proper strength is sufficient to curdle 40 gallons of milk. Experience alone enables the dairyman to judge of the strength of his rennet; for this purpose he takes in a flat ladle some milk which has been heated to about 95 degrees of Fahrenheit, and adds a small measure of rennet. By the rapidity with which it curdles, and by the form of the flakes produced, he knows its exact strength, and puts more or less into the cauldron in which the milk is heated for curdling.

There are different kinds of cheese, according to the mode of preparing it: soft and rich cheeses are not intended to be kept long; hard and dry cheeses are adapted to be kept and stored for provisions. Of the first kind are all cream cheeses, and those soft cheeses, called Bath cheeses and Yorkshire cheeses, which are sold as soon as made, and if kept too long become soft and putrid. Stilton and Gruyère cheeses are intermediate; Parmesan, Dutch, Cheshire, Gloucestershire, and similar cheeses, are intended for longer keeping. The poorer the cheese is, the longer it will keep; and all cheese that is well cleared from whey, and sufficiently salted, will keep for years. The small Dutch cheeses, called Edam cheeses, are admirably adapted for keeping, and form an important article in the victualling of ships.

The Gruyère and Parmesan cheeses only differ in the nature of the milk, and in the degree of heat given to the curd in different parts of the process. Gruyère cheese is entirely made from new milk, and Parmesan from skimmed milk. In the first nothing is added to give flavour: in the latter saffron gives both colour and flavour: the process in both is exactly similar. A large cauldron, in the shape of a bell, capable of holding from 60 to 120 gallons of milk, hangs from an iron crane over a hearth where a wood fire is made. The milk, having been strained, is put into this cauldron, and heated to nearly blood-heat (95° to 100°). It is then turned off the fire, and some rennet, prepared as stated above, is intimately mixed with the warm milk by stirring it with the hand, in which is held a flat wooden skimming-dish, which is turned round in the milk while the hand and arm stir it. A cloth is then laid over the cauldron, and in half an hour, more or less, the coagulum is formed. This is ascertained by pressing the skimming-dish on the surface, when the whey will appear on the part pressed. If it is longer than an hour in coagulating, the milk has been too cool, or the rennet not strong enough. When the curd is properly formed, it is cut horizontally in thin slices by the same skimming-ladle. Each slice, as it is taken off, is poured along the side of the cauldron which is nearest to the operator; by this means every portion of the curd rises successively to the surface, and is sliced thin. The whole is then well stirred, and the cauldron is replaced over the fire. A long staff, with a small knob of hard wood at the end, and which has smaller cross pieces or sticks passed through holes in it at right angles to each other near the end, is now used to stir and break the curd, and the heat is raised to about 135°, which is as hot as the arm can well bear, even when used to it. The cauldron is again swung off the fire, and the curd is stirred with the staff, which is moved round with a regular rotatory motion, the knob running along the angle formed with the side by the bottom of the cauldron, which is in the form of a bowl. After stirring in this manner nearly an hour, the curd is found divided into small dies about the size of a pea, which feel elastic and rather tough under the finger. Experience alone can teach the exact feel they should have. The whey, of which a portion is removed occasionally, now floats at top, and the curd is collected in the bottom by giving a very rapid rotatory motion to the contents of the cauldron by means of the staff. A cloth is now introduced into the bottom, and all the curd collected over it; it is raised by the four corners, and laid on an instrument like a small ladder, which is placed across the mouth of the cauldron. The whey runs out through the cloth, which is a common cheese-cloth, woven with wide interstices; and the curd in the cloth is placed in a shape or hoop, made of a slip of wood, four inches and a half wide, the two ends of which lie over each other, so that the diameter can be increased or lessened. A cord fixed to one end of the hoop is passed with a loop over hooks on the outer surface of the other end, and prevents the ring from opening more than is required. The curd is pressed into this ring with the hands, and the ends of the cloth are folded over it. A round board, two inches thick, and strengthened by cross pieces nailed on it, is placed over the curd, and the press let down upon it.

The cheese-press is a simple long board or frame, forming a lever, loaded at one end, and moving in a frame at the other; it is lifted up by another lever connected with it, and let down on a strong stick, which stands with its end on the centre of the board last mentioned. Thus the weight is easily removed or replaced. The hoop containing the cheese is placed on a similar board, and from it the table of the press slopes towards a wooden trough, which receives the whey as it runs out. In an hour after this, the curd is examined; the edges, which are pressed over the ring, are pared off, and the parings are put on the centre of the cheese; a fresh cloth is substituted, and the whole cheese is turned. The ring, which opens readily by unhooking the cord, allows the cheese to come out, and is put on again and tightened. This is repeated two or three times in the day. In the evening a small portion of finely powdered salt is rubbed on each side of the cheese, and it remains in the press till the next morning. It is now again rubbed with salt, and placed on a shelf with a loose board under it. The wooden ring remains on the cheese for two or three days, and is then taken off.

During the next six or eight weeks the cheeses are turned and wiped every day, and a small quantity of fine salt is sifted on the surface, and rubbed in with the hand until they will take no more. The cheese-room is always very cool, and little light is admitted. A free circulation of air is essential. The cheeses are in perfection in about six months, and will keep two years. A quantity of elastic fluid is disengaged in the ripening, and forms those round eyes which are a peculiar feature in these cheeses. The smaller and rounder the eyes, the better the cheese is reckoned. They should contain a clear salt liquor, which is called the tears; when these dry up, the cheese loses its flavour.

In Cheshire the making of cheese is carried on in great perfection, and the greatest pains are taken to extract every particle of whey. For this purpose the curd is repeatedly broken and mixed, the cheeses are much pressed, and placed in wooden boxes which have holes bored into them. Through these holes sharp skewers are stuck into the cheese in every direction, so that no particle of whey can remain in the curd. The elastic matter formed also escapes through these channels, and the whole cheese is a solid mass without holes, which in this cheese would be looked upon as a great defect. The salt is intimately mixed with the curd, and not merely rubbed on the outside. This checks internal fermentation, and prevents the formation of elastic matter.

Gloucester and Somersetshire cheeses are similarly made, with this difference, that the curd is not so often broken or the cheese skewered, and a portion of the cream is generally abstracted to make butter. After the curd has been separated from the whey and is broken fine, warm water is poured over it for the purpose of washing out any remaining whey, or perhaps to dissolve any portion of butter which may have separated before the rennet had coagulated the milk.

Stilton cheese is made by adding the cream of the preceding evening's milk to the morning's milking. The cream should be intimately incorporated with the new milk; great attention should be paid to the temperature of both, and much of the quality of the cheese depends on this part of the process. To make this cheese in perfection, as much depends on the management of the cheese after it is made as on the richness of the milk. Each dairy-woman has some peculiar method which she considers the best; and it is certain that there is the greatest difference between cheeses made in contiguous dairies. The rennet should be very pure and sweet. When the milk is coagulated, the whole curd is taken out, drained on a sieve, and very moderately pressed. It is then put into a shape in the form of a cylinder, eight or nine inches in diameter, the axis of which is longer than the diameter of the base. When it is sufficiently firm, a cloth or tape is wound round it to prevent its breaking, and it is set on a shelf. It is occasionally powdered with flour, and plunged into hot water. This hardens the outer coat and favours the internal fermentation, which ripens it. Stilton cheese is generally preferred when a green mould appears in its texture. To accelerate this, pieces of a mouldy cheese are sometimes inserted into holes made for the purpose by the scoop, called a *taster*, and wine or ale is poured over for the same purpose; but the best cheeses do not require this, and are in perfection when the inside becomes soft like butter, without any appearance of mouldiness. In making very rich cheeses the whey must be allowed to run off slowly, because, if it were forced rapidly, it might carry off a great portion of the fat of the cheese. This happens more or less in every mode of making cheese. To collect this superabundant butter, the whey is set in shallow pans, as is done with milk when butter is made; and an inferior kind of butter called *whey butter* is made from the cream or fat skimmed off.

Cheeses are frequently coloured—a practice which probably arose from the notion of making the cheese look richer; but now it deceives no one. Yet if some cheeses were not coloured, they would not be so marketable, owing to the association that subsists between the colour and the quality of the cheese. The substance used for colouring is most commonly arnotto. It is ground fine on a stone, and mixed with the milk at the time the rennet is put in. The juice of the orange carrot, and the flower of marigold, are also used for this purpose. Chedder, a cheese made in Somersetshire, which is highly prized, Stilton, Derby, and some other cheeses, are never coloured: Cheshire slightly; but Gloucester and North Wiltshire deeply. Foreign cheeses are only coloured very slightly, if at all. The Dutch cheeses are made in a very similar manner to the Gloucester cheeses, but the milk is generally curdled by means of muriatic acid or spirits of salt: and great care is taken to prevent fermentation, and to extract the whole of the whey. For this purpose the curd is repeatedly broken and pressed; and before it is made up into the round shape in which it is usually sold, the broken curd is well soaked in a strong solution of common salt in water. This diffuses the salt throughout the whole mass, and effectually checks fermentation. When the cheeses are finally pressed, all the whey which may remain is washed out with the brine; salt is likewise rubbed over the outside, and they are set to dry on shelves in a cool place. The flavour of the cheese is perhaps impaired by the stoppage of the fermentation; but it never heaves, and it acquires the valuable quality of keeping well even in warm climates. From the place where this cheese is commonly made, it is known by the name of Edam cheese. A finer cheese is made at Gouda and other places, by imitating the process in making Gruyère cheese; but this cheese is always full of small cavities, and will not keep so long as the Edam. The cheese most commonly met with in Holland is a large kind of skim-milk cheese, which is made very like Cheshire cheese. It grows hard and dry, and has not much flavour. To supply this defect, cummin seeds are mixed with the curd, which those who are accustomed to it consider a great improvement. On the whole it is a better cheese than our Suffolk skim-milk cheese, and forms an important part of the provisions usually stored for a Dutch family. In France the Roquefort cheese is compared to our Stilton, but is much inferior, although a good cheese. The little cheeses made from cream and folded in paper, called Neufchâtel cheeses, are imported from France as a delicacy. They can be easily imitated, being nothing more than cream thickened by heat, and pressed in a small mould. They undergo a rapid change, first becoming sour and then mellow, in which state they must be eaten.

The green Swiss cheese, commonly called *Schabzieger*, is produced in the canton of Glarus. The curd is pressed in boxes with holes to let the whey run out; and when a considerable quantity has been collected and putrefaction begins, it is worked into a paste with a large proportion of a certain dried herb reduced to powder. This herb, called in the country dialect *Zieger kraut* (curd-herb), is the *Melilotus officinalis*, which is very common in most countries, and has a peculiar aromatic flavour in the mountains of Switzerland. The paste thus produced is pressed into moulds of the shape of a common flower-pot, and the putrefaction being stopped by the aromatic herb, it dries into a solid mass, which keeps unchanged for any length of time. When used it is rasped or scraped, and the powder mixed with fresh butter is spread upon bread. It is either much relished or much disliked, like all those substances which have a peculiar taste and smell.

When a cheese which has been much salted and kept very dry is washed several times in soft water, and then laid in a cloth moistened with wine or vinegar, it gradually loses its saltness, and from being hard and dry, becomes soft and mellow, provided it be a rich cheese. This simple method of improving cheese is worth knowing. It is generally practised in Switzerland, where cheeses are kept stored for many years, and if they were not very salt and dry they would soon be the prey of worms and mites. A dry Stilton cheese may thus be much improved.

Dairy.

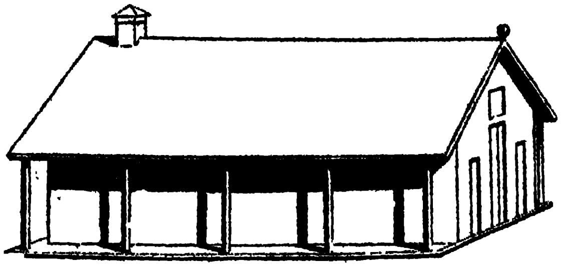
The place where the milk of cows is kept and converted into butter or cheese is the dairy. The occupation is called *dairying;* and land which is chiefly appropriated to feed cows for this purpose is called a *dairy-farm.*

A dairy-house should be situated on a dry spot somewhat elevated, on the side of a gentle declivity, and on a porous soil. It should be on the west or north-west side of a hill, or at least sheltered from the north, east, and south, by high trees. In countries where there are natural caverns with an opening to the west, and springs of water at hand, the best and coolest dairies are thus prepared by nature. Artificial excavations in the sides of freestone rocks are sometimes formed for the purpose of keeping milk. But the requisite coolness in summer, and equal temperature in winter, may be obtained by sinking the floor of the dairy some feet under ground, and forming an arched roof of stone or brick. In cold climates flues around the dairy are a great advantage in winter; and an ice-house in warm summers is equally useful: but these are only adapted to those dairies which are kept as an object of luxury. In mountainous countries, such as Switzerland, where the summers are hot in the valleys, and the tops of the mountains or high valleys between them are covered with fine pastures, the whole establishment of the dairy is removed to a higher and cooler atmosphere, where the best butter and cheese are made. Coolness is also produced by the evaporation of water, an abundant supply of which is essential to every dairy. It is also a great advantage if a pure stream can be made to pass through the dairy, with a current of air to carry off any effluvia, and keep the air continually renewed.

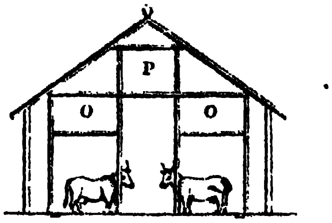
As the milk suffers more or less from being agitated, or too much cooled, before it is set for the cream to rise, the cow-house or milking-place should be as near as possible to the dairy. The dairy-house should consist of three distinct apartments below, with lofts and cheese-chambers above. The principal place is the dairy, properly so called, sunk two or three feet below the level of the ground, with a stone or brick bench or table round three sides of it to hold the milk-pans. This table should be a little below the level of the outer soil. Air-holes covered with wire should be made in the walls a little above, and on opposite sides of the dairy; and they should have shutters sliding over them to open or shut according to the weather. The floor should be of stone or paving-tiles, sloping gently towards a drain to carry off the water. Great care should be taken that no water stagnates in this drain, which must be kept as clean as the floor of the dairy, and not communicate with any sink, but run out into the open air: a declivity from the dairy is essential for this purpose. If this cannot be obtained, it must run into an open tank, and the water be regularly pumped out. The windows of the dairy should be latticed. Glazed windows may be added for the winter, but they should always be open except in very hot or very cold weather. There may be shutters to close entirely, but this is not essential. If the windows are made like Venetian blinds, the light will be excluded without excluding the air. The utmost purity must be maintained in the air of a dairy; nothing should enter it that can produce the slightest smell. No cheese or rennet should be kept in it; and particularly no meat, dressed or undressed. Even the dairy-maid should avoid remaining longer in it than is necessary, and should at all times be extremely clean in her person.

The next important place is a kind of washhouse, in which there is a chimney where a large copper kettle hangs on a crane to heat water in or milk when cheese is made. In countries where wood is scarce, and pit-coal is the common fuel, a copper may be set in brick-work with a grate under it, as is usual in England. In this place all the utensils of the dairy are kept, and scalded with boiling water every day. It should have an outer door, which may be to the south, and benches outside on which the pails and other utensils may be set to dry and be exposed to the air. Between the two last apartments may be another communicating with both, and forming a kind of vestibule, where the churning may take place; and over them a cheese-room and lofts, or any other useful chambers. A verandah round the dairy is very convenient, or on three sides at least. It shades from the sun, and adds to the warmth in winter; and the utensils may be dried and aired under it even in rainy weather.

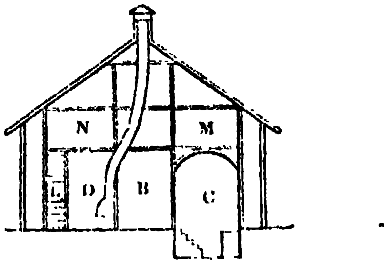
In Switzerland and in Holland the cow-house and dairy often have a very neat appearance within a short distance from the principal residence. The plan in both countries is very similar; the style of the roof is the chief difference. In the Netherlands, especially in North Holland and Friesland, a cow-house is as clean as any dwelling-house, and the family often assemble and take their meals in it. The following description of a cow-house and dairy under one roof combines all that is useful, with considerable neatness internally and externally:—It is a building about 60 feet long by 30 wide, with a verandah running round three sides of it. The dwelling is not here attached, as it usually is in common dairies, and the building is not surrounded by a farm-yard: these are the only circumstances in which it differs from that of a common peasant. The dairy-room is sunk below the level of the soil, and is paved with brick. The sides are covered with Dutch tiles, and the arched roof with hard cement. The cow-house, like all in Holland, has a broad passage in the middle, and the cows stand with their heads towards this passage, which is paved with clinkers or bricks set on edge. Their tails are towards the wall, along which runs a broad gutter sunk six or eight inches below the level of the place on which the cows stand. This gutter slopes towards a sink covered with an iron grate, which communicates by a broad arched drain with a vaulted tank into which all the liquid flows. The gutter is washed clean twice a day before the cows are milked. The cows stand or lie on a sloping brick floor, and have but a small quantity of litter allowed them, which is removed every day and carried to the dungheap or to the pig-styes to be more fully converted into dung. Whenever the litter is removed, the bricks are swept clean, and in summer they are washed with water. In Holland the cows' tails are kept up by a cord tied to the end of them, which passes over a pulley with a weight at the other end, as we see practised with horses that have been nicked: thus they cannot hit themselves, or the person who milks them. The manner in which the cows are fastened is worthy of notice:—Two slight pillars of strong wood are placed perpendicularly about two feet distance from each other, so that the cow can readily pass her head between them. On each of these is an iron ring, which runs freely up and down, and has a hook in its circumference: two small chains pass from these hooks to a leather strap, which buckles round the neck of the cow. Thus the cow can rise, and lie down, and move forward to take her food, which is placed in a low manger before the two pillars; but she cannot strike her neighbour with her horns. The mangers or troughs are of wood, or of bricks cemented together, and are kept as clean as all the rest of the cow-house.



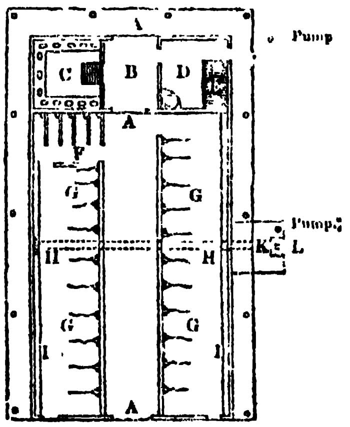
Side view.



Section of the Cow-house.



Section of the Dairy.



Ground Plan.

A, A, A, passage through the cow-house and dairy ten feet wide, paved with bricks set on edge or Dutch clinkers. The food is brought in this passage in a small cart and distributed to the cows.

B, part of the above passage closed in with doors and forming a vestibule to the dairy; C, dairy-room, in which only milk, cream, and butter are kept. It is sunk three feet under the level of the cow-house, and covered with a brick arch; it has one latticed window, and several ventilators, on a level with the place on which the milk vessels are set.

D, the room wh[illegible]he utensils are scalded, and where cheese is made; in one corn[illegible] a fireplace, with a large kettle or a copper set.

E, stairs to go up to the cheese-room M, and loft N.

F, calf-pens, in which the calves are tied up to fatten, so that they cannot turn to lick themselves; a small trough with pounded chalk and salt in each pen.

G, the place for the cows, without partitions; each cow is tied to two posts by two small chains and two iron rings, which run on the posts; the chains are fastened to a broad leather strap, which is buckled round the neck of each cow. H, H, two sinks, with iron gratings over them, to catch the urine from the gutters I, I, which run all the length of the cow-house on each side. K, the urine tank, vaulted over with a door, L, to clean it out, and a pump to pump up the liquid manure. O, O, in the section, are places where the green food or roots are deposited for the day's consumption. P, a hay-loft.

In Switzerland the cow-houses are similar, but there is also a rack, the back of which towards the passage shuts up with a board on hinges. The Dutch mode supplies more light and air to the middle passage; and as the food is given frequently and in small quantities there is very little waste. The accompanying cuts will give a tolerable idea of the whole arrangement. The food is brought in carts, which are driven at once between the cows. What is not wanted immediately is stored above, whence it is readily thrown down before them. Thus much trouble is saved, and one man can feed and attend to a great many. From November till May the cows never leave the cow-house. In summer when they are out, if they are in adjacent pastures, they are driven home to be milked, but if the pastures are far off, which is sometimes the case, they are milked there, and the milk is brought home in boats; but this is not thought so good for the butter, which is then always churned from the whole milk, without letting the cream rise. The finest and best flavoured butter is always made from the cream as fresh as possible; and to make it rise well, the milk should be set as soon as it is milked, and agitated as little as possible. The greatest quantity is seldom obtained when the quality is the finest. When great attention is paid to the quality, the milk is skimmed about six hours after it is set; and the cream taken off is churned by itself. The next skimming makes inferior butter.

The utensils of the dairy, such as pails, churns, vats, &c., are usually made of white wood, and are easily kept clean by scalding and scouring. Leaden troughs are used in large dairies; and if they are kept very clean by careful scouring, they answer the purpose better than wood. Brass pans have the advantage of being readily warmed on a chafing dish in winter. In Devonshire tin or brass pans are frequently used instead of earthenware. Although there is some danger in the use of brass utensils, very little attention will obviate it. It only requires that they should be kept bright, in which case the smallest speck of oxide or verdigris would be perceptible. In Holland the milk is invariably carried in brass vessels. Cast-iron pans have been invented, which are tinned inside. They are economical; but there is nothing better or neater than well-glazed white crockery ware, of the common oval form.

The most profitable dairy is that which supplies large towns with milk. In these dairies the cows are mostly kept in stalls, and fed with food brought to them. Some dairymen near London possess several hundred cows, and the arrangement of their establishments is worthy of notice. The cows are bought chiefly in the north, before or after they have calved. They are seldom allowed to go to the bull, but are kept as long as they can be made to give milk by good feeding. When they are dry, they are often already sufficiently fat for sale, or at all events they soon fatten, and are sold to the butcher. A succession of cows is thus kept up, new ones arriving as others are sold off. The women who purchase the milk from the dairyman and carry it about for sale, come for it to the dairy and milk the cows twice a day; and as they well know that the last drop of milk is the richest, the cows are sure to be milked quite dry, an essential thing in a dairy. An accurate account is kept of the quantity which each woman takes, which is paid for weekly. When there is more milk than there is a demand for, it is set, and the cream is sold separately, or made into butter; but this is seldom done to any extent. The cows are fed on every kind of food that can increase the milk: brewers' grains and distillers' wash are preferred when they can be obtained. The grains are kept in large pits, pressed close and covered with earth, under which circumstances they will remain fresh a long time. Turnips and beet-root are used in large quantities; but hay is given sparingly. The cows are generally placed in pairs, with a partition between every two pair. Each cow is fastened to the corner of the stall, where she has a small trough with water before her: thus they cannot gore each other with their horns. The great dairies about London are kept very clean; but the liquid manure, which would be so valuable for the market-gardens, is lost, and runs off by the sewers. In Belgium the urine would be contracted for at the rate of 2*l.* per cow per annum, which would produce 1200*l.* a-year in a dairy of 600 cows, and would pay a good interest for the money expended in constructing large vaulted cisterns under each cow-house.

The dairy farms of England are chiefly in Gloucestershire, Devonshire, and Cheshire. They require a smaller capital than arable farms of the same extent; the chief outlay is the purchase of cows. The rent of good grass land is generally higher than if it were converted to arable land; and the risk from seasons, and from a variation in the price of the produce, is much less in a dairy farm than in one where corn is chiefly cultivated. Hence the rents are better paid, and there are fewer failures among the tenants: but the profits of a dairy farm, without any arable land, are not considerable; a decent livelihood for the farmer and his family is all that can be expected. There is no chance of profit in a dairy of which the farmer or his wife are not the immediate managers. The attention required to minute particulars can only be expected in those whose profit depends upon it. The dairies of men of fortune may be arranged on the best and most convenient plan, and be indispensable articles of luxury; but the produce consumed has always cost much more than it could be purchased for. A proper attention to keeping correct accounts of every expense will convince any one of this truth. In a dairy farm the great difficulty is to feed the cows in winter. It is usually so arranged that the cows shall be dry at the time when food is most scarce, and they are then kept on inferior hay, or straw, if it can be procured. It is a great improvement in a dairy farm if it has as much arable land attached to it as will employ one plough, especially if the soil be light; but the mode of cultivating this farm must vary from that of other farms, since the food raised for the cows must be a principal object. Corn is a secondary object; and the cultivation of roots and grasses must occupy a great portion of the farm. When the grasses degenerate, a crop or two of corn is taken, and the rotation is chiefly roots, corn, and grass cut for hay, until it wears out. If the roots are well manured, the land keeps in excellent heart. The old pastures are kept for summer feeding. Arable land laid down to grass for the purpose of the dairy seldom produces fine-flavoured butter, or good cheese; but clover-hay is excellent for young stock, or to fatten off the old cows. Lucern is reckoned to make cows give very good milk: nothing, however, can equal a rich old pasture, as all dairymen agree.

Irrigation.

Grass land may be divided into Water-meadows, Upland Pastures, and Artificial Grasses.

Of all the substances which concur in the vegetation and growth of plants water is the most essential: without moisture the seed cannot germinate, nor can the plant receive nourishment. This circumstance has suggested the plan of diverting streams and conducting them in channels to fertilize as great an extent of land as possible. It seems that where there is great heat in the air, water alone will supply the necessary food for the growth of plants. It is probable that the component parts of the atmosphere are more easily separated, and made to enter into new combinations with those of water, in a high temperature than in a lower; or that the leaves and green parts of vegetables imbibe water in a state of solution in air, and that in this state it is more easily decomposed. Atmospheric air and water contain all the principal elements of vegetables, viz. oxygen, hydrogen, carbon, and nitrogen; the remainder are either found in the soil or diffused through the water. Manures seem to act principally as stimulants or re-agents, and are themselves composed of the same elements: they are of no use unless diffused or dissolved in water; but when the water is impregnated with animal or vegetable substances, the effect is far greater and more rapid than when the water is pure.

Water has also an important office to perform, if we admit the principle discovered by Macaire, that plants reject through their roots those portions of the sap which are the residue of its elaboration, and which are of no further use to the plant, but rather injurious if they are again imbibed by the roots. Plants seem to require a removal of their excrements, as animals do when tied up in stalls, or confined in a small space. If this is not effected, they suffer and contract diseases. The percolation of water through the soil is the means which nature has provided for this purpose. Hence we can readily suppose that the mere washing of the roots has a beneficial effect, and to this in a great measure must be ascribed the fertilizing effects of pure and soft running water.

If water stagnates and is evaporated, and the noxious matter held in solution remains in the soil, all the advantage of irrigation is lost, and the better kinds of grasses are succeeded by rushes and coarse aquatic plants. The circulation of the water therefore appears to be as necessary as its presence; and, provided there be a sufficient supply of water of a proper quality, the more porous the soil, and especially the subsoil, is, the more vigorous is the vegetation. It is on this principle alone that we can rationally account for the great advantage of irrigation in those climates where rain is abundant, and where the soil, which is most benefited by having a supply of water running through it, is of a nature to require artificial draining as an indispensable preliminary to being made fertile by irrigation. By keeping these principles in view great light will be thrown on the practical part of irrigation, which, having been long established by experience before these principles were thought of, depends not on their correctness, but only confirms their truth.

The whole art of irrigation may be deduced from two simple rules, which are, first, to give a sufficient supply of water during all the time the plants are growing, and secondly, never to allow it to accumulate so long as to stagnate.

The supply of water must come from natural lakes and rivers, or from artificial wells and ponds, in which it is collected in sufficient quantity to disperse it over a certain surface. As the water must flow over the land, or in channels through it, the supply must be above the level of the land to be irrigated. This is generally the principal object to be considered. If no water can be conducted to a reservoir above the level of the land, it cannot be irrigated. But there must also be a ready exit for the water, and therefore the land must not be so low as the natural level of the common receptacle of the waters, whether it be a lake or the sea, to which they run. The taking of the level is therefore the first step towards an attempt to irrigate any lands.

Along the banks of running streams nature points out the declivity. A channel, which receives the water at a point higher than that to which the river flows, may be dug with a much smaller declivity than that of the bed of the river, and made to carry the water much higher than the natural banks. It may thence be distributed so as to descend slowly and water a considerable extent of ground in its way to rejoin the stream. This is by far the most common mode of irrigation; and the shape, size, and direction of the channels are regulated by the nature of the surface and other circumstances, which vary in almost every situation.

We shall suppose a river to run with a rapid current between high banks. At some point of its course a portion of the water is diverted into a canal dug along the bank, with a very small declivity. The water in this canal will flow with less rapidity than the river, but will keep the same level as that part of the river where it has its origin. Thus the [illegible]r may be carried over lands which are situated considera[illegible] above the bed of the river farther down. All the lands between this canal and the river may be irrigated if there is a sufficient supply of water. The canal may be carried to a considerable distance from the river. The size of the canal and its declivity depend on the quantity of water which may be made to flow into it. A dam is often constructed across a river, in order that as much of its water as is possible may be diverted, and the original channel is often laid quite dry, to take advantage of all the water at the time when it is advantageous to irrigate the land.

To have an entire command of the water, there are flood-gates on the main channel and on the lesser branches, by opening or shutting which the water may be stopped or made to flow as may be required. It must be remembered, that to carry water to a considerable distance, and in great quantity, a larger channel and more rapid declivity are required; and it is a matter of calculation whether it is most advantageous to bring a smaller quantity to a higher point, or a greater abundance somewhat lower. Having a certain command of water, it may be carried from the main channel by smaller branches to different points, so as to irrigate the whole equally. These branches should be nearly horizontal, that the water may overflow the sides of them, and be equally distributed over the land immediately below. Every branch which brings water over the land should have a corresponding channel below to carry it off; for the water must never be allowed to stop and stagnate. When it has run 15 or 20 feet, according to the declivity, over the land situated below the *feeder*, or the channel which brings the water, it should be collected into a drain to be carried off, unless it can be used to irrigate lands which lie still lower. Finally it runs back into the river from which it was taken, at a lower point of its course.

When there is a considerable fall and a sufficient supply of water, a series of channels may be made, so situated below each other, that the second collects the water which the first has supplied, and in its turn becomes a feeder to irrigate the lower parts of the declivity: a third channel receives the water and distributes it lower down, until the last pours it into the river. This is called *catch-work*, because the water is caught from one channel to another. This method is only applicable where there is a considerable fall of water and a gentle declivity towards the river. But it must be borne in mind that the water is deteriorated for the purpose of irrigation when it has passed over the land, and that it is not advantageous to let it flow over a great extent when a fresh supply can be obtained: but where only a small portion of water can be commanded, that must be made the most of; and it will irrigate three or four portions of land in succession without there being any very marked difference in the effect: beyond this it rapidly loses its fertilizing qualities.

In many situations the great difficulty in irrigation arises from the want of a supply of water; but even then a partial irrigation may be effected, which will have its advantages. A small rill which is often quite dry in summer may by judicious management be made to improve a considerable portion of land: its waters may be collected in a pond or reservoir, and let out occasionally, so that none be lost or run to waste. If there is only a small quantity, it must be husbanded and made to flow over as great a surface as possible. If there is water only at particular seasons of the year, and at a time when it would not be of much use to the land, it may be kept in ponds, and it will lose none of its qualities by being exposed to the air. If animal or vegetable matter in a partial state of decomposition is added to this water, it will much improve its quality.

If there is not a want of water, there may be a want of declivity to enable it to flow off, which is an essential part of irrigation. Art may in this case assist nature by forming a passage for the water, either in its course towards the land to be irrigated, or from it after it has effected its purpose. Where there is no natural exit, and it might cause too great an expense to make an artific[illegible]e, the water may sometimes be led into shallow ponds, w[illegible] a great part is evaporated; or porous strata may be found by boring, into which it can be made to run and be dispersed. Along rivers where the fall is very imperceptible, a channel brought from a considerable distance may give such a command as to throw the water over a great extent of surface; and to carry it off another channel may be cut, emptying itself at some distance below: thus lands which lie along the banks of a river may be irrigated, although they are actually below the level of the river, and require banks to protect them from inundation.

When the surface to be irrigated is very flat and nearly level, it is necessary to form artificial slopes for the water to run over. The whole of the ground is laid in broad beds undulating like the waves of the sea. The upper part of these beds is quite level from end to end, and here the channel or float which brings the water on is cut. From the edge of this channel the ground is made to slope a foot or two on both sides, and a ditch is cut at the bottom parallel to the float. The whole of the ground is laid out in these beds. All the floats are supplied by a main channel at right angles to the beds, and somewhat above them, and all the ditches or drains run into a main ditch parallel to the main float, and below the lowest drain. The course of the water is very regular. As soon as the flood-gates are opened it flows into all the upper channels, which it fills till they overflow in their whole length. The sloping sides are covered with a thin sheet of running water, which the lower drains collect and carry into the main ditch.

Experience has shown that there are particular seasons when the water has the best effect; a perfect command of it is therefore indispensable, and also a regular supply. During frost, when all dry meadows are in a state of torpor, and the vegetation is suspended, the water-meadows, having a current of water continually flowing over them, are protected from the effect of frost, and the grass will continue to grow as long as the water flows over it. Too much moisture however would be injurious, and the meadows are therefore laid dry by shutting the flood-gates, whenever the temperature of the air is above freezing. By this management the grass grows rapidly at the first sign of spring. Before the dry upland meadows have recovered the effects of frost and begun to vegetate, the herbage of the water-meadows is already luxuriant. As soon as they are fed off or cut for the first crop of hay, the water is immediately put on again, but for a shorter time. A renewed growth soon appears, and the grass is ready to be cut a second time when the dry meadows only give their first crop. Thus, by judicious management, three or four crops of grass are obtained in each season, or only one abundant crop is made into hay, and the sheep and cattle feed off the others. The usual way in which the grass of water-meadows is made profitable is by feeding ewes which have early lambs till the middle of April. A short flooding soon reproduces a crop, which is mown for hay in June; another flooding gives an abundant aftermath, which is either mown for hay, or fed off by cows, bullocks, and horses; for at this time the sheep, if pastured in water-meadows, are very subject to the rot. The value of good water-meadows is very great: when the water is suited to irrigation, they never require manuring; their fertility is kept up continually, and the only attention required is to weed out coarse aquatic plants.

Water may be carried in small channels through meadows without being allowed to overflow, and in this case the effect is similar to that caused by rivers or brooks which wind slowly through valleys, and produce a rich verdure along their course. This is watering, but not properly irrigating. When this is done judiciously, the effect is very nearly the same as when the land is irrigated; and in hot climates it may be preferable, by giving a constant supply of moisture to the roots, while the plants are growing. The great advantage of water-meadows in England is not so much the superior quantity of grass or hay which is obtained when they are mown, as the early feed in spring, when all kinds of nutritive fodder are scarce; when the turnips are consumed before the natural grass or the rye sown for that purpose is fit to be fed off, the water-meadows afford abundant pasture to ewes and lambs, which by this means are brought to an early market. The farmer who has water-meadows can put his ewes earlier to the ram, without fear of wanting food for them and their lambs in March, which is the most trying season of the year for those who have sheep. At that time an acre of good grass may be worth as much for a month as a later crop would for the remainder of the year. When it is intended to form a water-meadow on a surface which is nearly level, or where a fall of only two or three feet can be obtained in a considerable length, the whole of the land must be laid in beds about 20 or 30 feet wide, the middle or crown of these beds being on a level with the main feeders, and the bottoms or drains on a level with the lower exit of the water, or a little above it. To form these beds most expeditiously, if the ground is already in grass, the sod may be pared off and relaid after the beds are formed, by which means the grass will be sooner re-established; but except in very heavy soils, where the grass is some time in taking root, the easiest and cheapest way is to plough the land two or three times towards the centre, and dig out the drain with the spade: the earth out of the drains, and that which is taken out of the upper trench or feeder, may be spread over the bed to give it the proper slope. A roller passed over the bed in the direction of its length will lay it even, and the seeds of grasses being sown over it, the water may be let on for a very short time to make them spring. As soon as the grass is two or three inches above ground a regular flooding may be given, and in a very short time the sward will be complete. Instead of sowing seed, tufts of grass cut from old sward may be spread over the newly-formed beds, and they will soon cover the ground. The Italian rye-grass, which has been lately introduced into this country from Lombardy and Switzerland, grows so rapidly, that if it be sown in February, or as soon as the snow and frost are gone, it will afford a good crop to feed off in April, or to mow for hay by the beginning of May; and after that it may be cut repeatedly during the summer. But where the soil is good and the water abundant, good natural grasses will spring up without much sowing, and soon equal the old water-meadows.

It seems essential to the formation of a good water-meadow that the bottom be porous, and free from stagnant water; hence under-draining is often indispensable before a water-meadow can be established; and a peat-bog, if drained and consolidated, may have water carried over its surface, and produce very good herbage. If the soil is a very stiff clay, draining is almost indispensable where a water-meadow is to be made. The more porous the soil the less depth of water is required, which is not obvious at first sight; but the clay lets the water run over the surface without soaking into the roots, whereas the porous soil is soon soaked to a considerable depth. The water must therefore be longer on the clay than on the sand or gravel to produce the same effect. If the water is properly applied, all kinds of soils may be converted into fertile water-meadows. On very stiff clays a coat of sand or gravel, where it can be easily put on, will greatly improve the herbage. It should not be ploughed in, but laid on the surface two or three inches thick: chalk will also improve the herbage.

The usual time of letting on the water on water-meadows is just before Christmas, and it may continue to flow over the land as long as the frost lasts: in mild weather it may be turned off during the day and put on again at night until the frost is gone. The grass will soon begin to grow, and be ready to be fed off. When this is done the water is immediately let on for a short time, and turned off again to allow the ground to dry after a few days' flooding, and the water is let on again at short intervals. The warmer the air is, the shorter time must the water be allowed to cover the meadows. As soon as the grass is five or six inches long it must be left dry entirely till it is mown or fed off. In summer the floodings must be very short, seldom more than 24 hours at a time, but frequent. Thus a great weight of grass may be obtained year after year without any manure being put on the land, care being taken that where the surface is not quite even the hollows be filled up with earth brought from another place, or dug out of the drain, if that should be partially filled up with the soil which the water has carried into it. We alluded before to a case where water may remain a considerable time on the land without injury; this is, when there are inundations from rivers, which rise above their beds in spring, and cover the low meadows which lie along their banks. In this case the grass, which has not yet sprung up, is protected from the cold, and if there is a deposit from the water there is a considerable advantage. But when it subsides, it must be made to run off entirely, without leaving small pools, by which the grass would invariably be injured. Small ditches or channels are usually dug, by which all the water may run off, unless where the subsoil is very porous, or the land is well under-drained, which is seldom the case in these low meadows, for the drains would be apt to be choked by the earthy deposit from the water. These inundations can sometimes be regulated by means of dykes and flood-gates, in which case they partake of the advantages of irrigation, and also of that deposition of fertilizing mud which is called warping.

In the plan (*fig.* 1) AA is a river which has a considerable fall, and then flows through a level plain. A considerable channel is cut at B, where there is a rapid fall over a natural or artificial dam. This channel is carried round a hill and supplies a series of channels, C,C,C, placed below each other, forming catch-work along a declivity. A portion of the water goes on to D, where it supplies the feeders of a regular set of ridges, or beds, made as before described, from which the water returns into the river by a main trench, into which all the drains run.

On the other side of the river, where the slopes lie somewhat differently, there are several examples of catch-work, the black lines representing the drains which receive the water after it has flowed over the surface, and carry it into the river below.

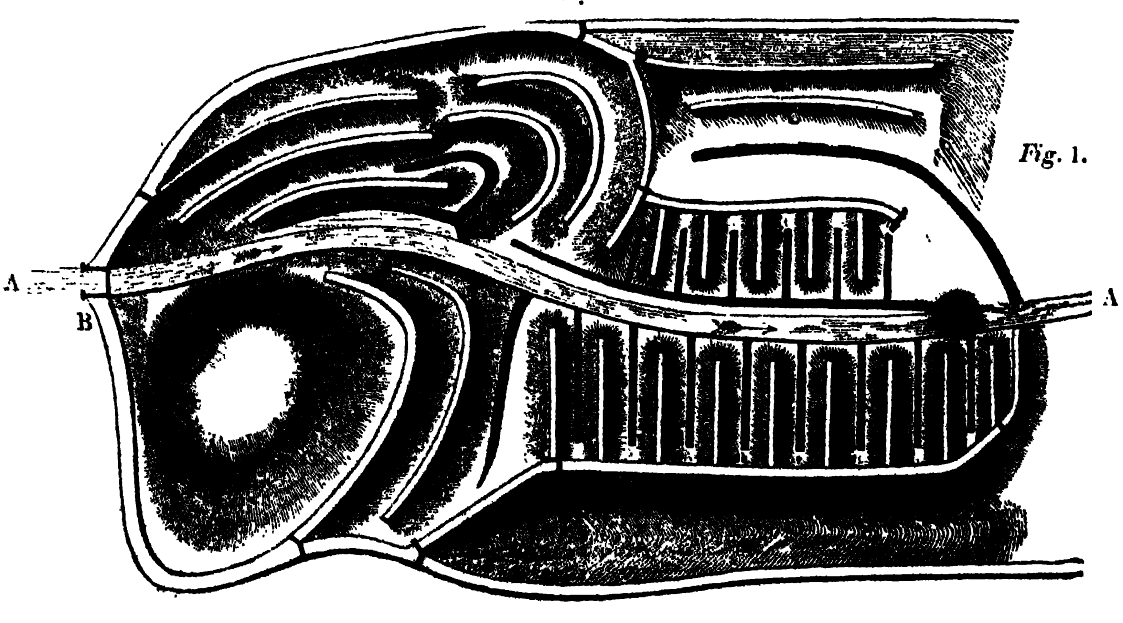


Fig. 1.

Fig. 2.

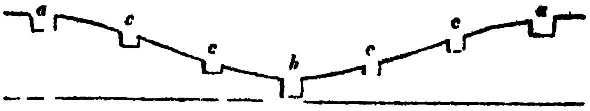
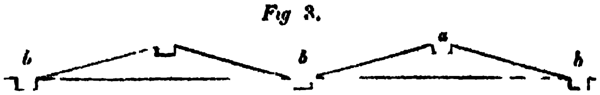


Fig 2 is the section of catch work *a*, *a*, are the feeders, *b*, the drain, *c*, *c* *c*, *c*, intermediate channels which act as feeders and drains

Fig 3.



Ridge work

Fig 3 is the section of two adjoining ridges *a*, *a*, the feeders; *b*, *b*, *b*, the drains.

Fig 4

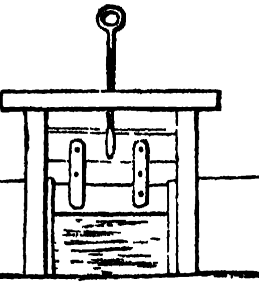


Fig 4 is a sluice to regulate the flow of water

It is evident that all the feeders are nearly horizontal, to allow the water to flow over their sides

Upland Pastures are portions of land on which the natural grasses grow spontaneously The plants which form the natural sward are not confined to the family of the gramineæ, but many other plants, chiefly with perennial roots, form part of the herbage In the richest soils the variety is exceedingly great When a sod is taken up, and all the plants on it are examined the species will be found very numerous, and in the same ground the plants will vary in different years, so as to induce one to conclude, that, like most other herbaceous plants the grasses degenerate when they have grown for a long time on the same spot, and that a kind of rotation is established by nature It is chiefly in those pastures where the grasses are allowed to grow till they form their seed that this is observable, for when they are closely fed, and not allowed to shoot out a seed stem, they are less subject to degenerate and disappear This may be a reason why experienced dairymen are so unwilling to allow their best pastures to be mown for hay Close feeding is always considered the most advantageous both to the cattle and the proprietor.

The only way in which a pasture can be profitable is by feeding stock, and its value is in the exact proportion to the number of sheep or cattle which can be fed upon it in a season Extensive pastures are often measured only by their capacity, in this respect Thus we speak of downs for 1000 sheep, and in Switzerland and other mountainous countries, they talk of a mountain of 10, 50, or 100 cows, without any mention of extent in acres.

When a pasture is naturally rich, the only care required is to stock it judiciously, to move the cattle frequently from one spot to another (for which purpose inclosures well fenced are highly advantageous), and to eradicate certain plants which are useless or noxious, such as docks and thistles, furze, broom, briars, and thorns. The dung of the cattle also, when left in heaps as it is dropped, kills the grass, and introduces coarse and less palatable plants. This must be carefully beat about and spread, or carried together in heaps to make composts with earth, to manure the poorer meadows or the arable land. All that is required in rich pastures in which cows and oxen are fed, and which are properly stocked, is to prevent the increase of the coarser and less nutritive plants. Weeding is as important in grass as in arable land; and if it is neglected the consequence will soon be observed by the inferior quality of the feed. The urine of the cattle is the manure which chiefly keeps up the fertility of grass land; and although in hot and dry weather it frequently burns up the grass where it falls, when it is diluted by showers the improved appearance of the surface shows that its effect has not been detrimental. To enrich poor meadows there is no manure so effective as diluted urine, or the drainings of stables and dunghills.

When pastures are poor, and the herbage is of a bad quality, the cause is in the soil. A poor arid soil is not fitted for grass, nor one which is too wet from the abundance of springs and the want of outlet for the water. These defects can only be remedied by expensive improvements. A soil which is too dry may be improved by cultivation and judicious manuring, but for this purpose it must be broken up and treated for some time as arable land· and it may be a question whether or not the expense of improving the soil will be repaid by the superior quality of the pasture when it is again laid down to grass. In general the poor light soils, if they are worth cultivation, answer better as arable land, especially where the turnip husbandry is well understood. The low wet clay soils may be converted into good pastures by draining them well; and judicious draining in such soils is the most profitable investment of capital

When old meadows have been neglected or too often mown, without being recruited by manure or irrigation, they are often overrun with moss or rushes, and produce only a coarse sour grass. In that case, besides draining it if required, the land must be broken up, and undergo a regular course of tillage, until the whole of the old sward is destroyed, and a better collection of grasses covers the surface If this be done judiciously, the pasture will not only be greatly improved in the quality, but also in the quantity of the grass. There is a prejudice against the breaking up of old grass land, which has arisen from the improper manner in which it is frequently effected The sward when rotten is a powerful manure, and produces great crops of corn, and this tempts the farmer to repeat the sowing of corn on newly broken up lands. The fertility is reduced rapidly, and when grass seeds are sown after several crops of corn, the soil has been deprived of a great portion of the humus and vegetable matter which is essential to the growth of rich grass. The proper method of treating grass land, broken up to improve it, is to take no more corn crops than will pay the expense of breaking up, carting earth, lime, or other substances upon it, to improve the soil, and to lay it down to grass again

If the soil is fit for turnips, no better crop can be sown to prepare for the grass seeds, which should be sown without a corn crop, except where the sun is powerful, and the seed is sown late in spring but autumn is by far the best season for sowing grass seeds for permanent pasture Turnips of an early kind may be sown in May, and fed off with sheep in August or September; and the ground being only very slightly ploughed, or rather scarified, and harrowed fine, the seeds may be sown and rolled in The species of grasses sown must depend on the nature of the soil, but it is impossible to be too choice in the selection That mixture of chaff and the half ripe seeds of weeds, commonly called hay seeds, which is collected from the stable lofts, should be carefully rejected, and none but seeds ripened and collected on purpose should be sown. The Trifolium repens (white clover), the Trifolium medium (cow-grass), Medicago lupulina (trefoil), Lolium perenne (rye-grass), the poas and festucas, are the best kinds of grasses. A very easy way of obtaining good seed is to keep a piece of good meadow shut up from the cattle early in spring, carefully weeding out any coarse grasses, and letting the best arrive at full maturity, then mow and dry the crop, and thresh it out upon a cloth Thus will give the best mixture of seeds; but some of the earliest will have been shed, and these should be collected separately, or purchased from the seedsmen. Before winter the ground will already be covered with a fine green, if the seed has been plentiful The quantity per acre of the mixed seeds should not be less than 30 or 40 pounds to insure a close pile the next year. *If* the soil is not naturally rich, liquid manure, or urine diluted with water, should be carried to the field in a water-cart, and the young grass watered with it. This will so invigorate the plants that they will strike and tiller abundantly. They should be fed off by sheep, but *not too close*. The tread of the sheep and their urine will tend to make the pile of grass close; and the year after this the new pasture will only be distinguished from the old by its verdure and freshness.

In some soils which are not congenial to grass, the seed does not take so well as in others; and there is a great difficulty in producing a good sward. In this case recourse may be had to planting, or, as some call it, inoculating grass. This is done by taking pieces of sward from an old meadow, and spreading them over the surface of the land to be laid down, after it has been ploughed and prepared in the same manner as it would be to receive the seed. The turf of the old meadow is taken up with a peculiar instrument in strips two inches wide, and these strips are cut across so as to form little square pieces, which are spread over the ground, leaving about five or six inches of interval between every two pieces. The heavy roller presses them into the ground. These tufts soon spread and fill up all the intervals with a complete old sward. This is a very effectual method of producing a permanent pasture.

The fertility produced by grass which is fed by cattle and sheep has given rise to the practice of converting arable land to pasture for a certain time in order to recruit its strength. The old notion was that the land had *rest*, which, by a confusion of ideas, was associated with the rest of the labourers and the horses. Ploughing was called working the land; and some men talked of working out the heart of the land by ploughing. In our moist climate there is seldom any danger of over-ploughing. The land, by being in grass, has much vegetable matter added to it from the fibres of the roots which die and decay, as well as from the other parts of the grass, which draw nourishment from the atmosphere, and impart it to the roots. Thus in time an accumulation of humus is formed; and when the land is ploughed, the rotting of the sward greatly increases it. Every species of plant thrives well in this improved soil.

It is well known that land which has been some years in grass is improved in fertility. The convertible system of husbandry takes advantage of this fact; and all its art consists in reproducing a good pasture without loss of time, after having reaped the benefit of the fertility imparted to the land during three or four years when it was in grass. Good pasture is very profitable; so are good crops: by making the one subservient to the other, the farmer who adopts the convertible system is enabled to pay higher rents, and still have a better profit than those who adhere to a simple rotation of annual crops.

In laying down a field to grass for a very few years, the mode of proceeding is somewhat different from that which is recommended for producing a permanent pasture. Clover in this case is always a principal plant, both the red and the white; these with annual or perennial rye-grass are sown with a crop of corn in spring, and begin to show themselves before harvest. The grasses are often mown the first year after they are sown, on account of the abundance and value of the red clover; but the best farmers recommend the depasturing them with sheep, to strengthen the roots and increase the bulk. Various circumstances, such as a greater demand for clover hay, or for fat cattle, may make mowing or feeding most profitable; but when there is not a decided advantage in making hay, feeding should always be preferred. At all events the great object of the farmer should be to have his land in good heart and tilth, and free from weeds when the grass is sown. If the grass is good, he is certain of good crops after it with little trouble or manure.

The seeds usually sown on an acre, when the land is laid down to grass, are as follows:—Red clover 12 lb., white 6 lb., trefoil 4 lb., rib-grass 2 lb., and 2 pecks of Pacey's rye-grass. Sometimes cockfoot-grass (Dactylis glomerata) and cow-grass (Trifolium medium) are added. This is for a field intended to remain four or five years in grass.

The introduction of artificial meadows, in districts where the soil seemed not well adapted for pasture, has greatly increased the number of cattle and sheep reared and fattened, and has caused greater attention to be paid to the means of improving the breeds of both.

In the neighbourhood of large towns there are many meadows, which, without being irrigated, are mown every year, and only fed between hay harvest and the next spring. These require frequent manuring to keep them in heart, and with this assistance they produce great crops of hay every year. The management of this grass land is well understood in Middlesex. Sometimes the meadows are manured with stable dung which has been laid in a heap for some time, and been turned over to rot it equally. This is put on soon after the hay is cut, and the rains of July wash the dung into the ground: but if a very dry and hot summer follows, little benefit is produced by the dung, which is dried up, and most of the juices evaporated. A better method is to make a compost with earth and dung, and, where it can be easily obtained, with chalk, or the old mortar of buildings pulled down. The best earth is that which contains most vegetable matter; and as many of these meadows are on a stiff clay soil, which requires to be kept dry by open drains and water furrows, the soil dug out of these and carted to a corner of the meadow makes an excellent foundation for the compost. It is sometimes useful to plough furrows at intervals to take off the superfluous surface-water in winter; the earth thus raised by the plough is excellent to mix in the compost: having been turned over with dung, sweepings of streets, or any other manure, so as to form a uniform mass, it is spread over the land in winter; and in spring a bush-harrow is drawn over the meadow, and it is rolled with a heavy roller. All this compost is soon washed into the ground, and invigorates the roots of the grass. It is better to put on a slight coating of this compost every year than to give a greater portion of manure every three or four years, as is the practice of some farmers. When grass land is let to a tenant, it requires some attention, and particular conditions in the lease, to prevent the meadows being deteriorated by continual mowing without sufficient manuring. It is very common to insist on a cart-load of stable dung being bought for every load of hay which is made and not consumed on the premises. Sometimes the tenant is bound to feed the land in alternate years; but if horses or heavy cattle should be taken in, especially in spring and autumn, they may do more harm by their treading, when the ground is soft, than would have been done by taking off a crop of hay. When the proprietor of meadows resides near them, he often finds it most profitable to keep them in hand, and sell the crop when it is fit to be mown. In that case he must be careful to manure them sufficiently, or his profits will soon diminish rapidly. The grazing of cattle has generally been a more profitable occupation than simply tilling the land. The capital required is considerable, but the current expenses are not great. The grazier is not subject to such total failures as the farmer of arable land is in his crops. With a little experience and prudence, he can always reckon on a certain return. An acre of good gr[illegible] land, worth 40*s.* rent, is supposed to produce 200 lb. of meat in the year. If this is worth 6*d.* a-pound, the gross produce is 5*l.* per acre. The expenses will not exceed 10*s.* per acre, so that here is a net profit of 2*l.* 10*s.* per acre with little or no risk; few arable farms will average this net profit. By uniting the raising of corn and the grazing of cattle and sheep, the greatest profit is probably obtained, and this is the great argument in favour of the convertible system of husbandry.

THE OLD ENGLISH BALLADS.

By ALLAN CUNNINGHAM.

§ 1.—HISTORICAL BALLADS.

> "That piece of song,
> That old and antique song we heard last night."—Shakspere.

To Bishop Percy in the south, and Sir Walter Scott in the north, we owe the recovery, as well as restoration, of some of our finest historical ballads; strains alike welcome to the rude and the polished, and not dear alone, as Warton avers, to savage virtue, and tolerated only before civil policy had humanized our ancestors. They won the admiration of the chivalrous Sidney, and the praise of the classic Addison; they moved the gentlest hearts and the strongest minds, and, though rough and often unmelodious, shared the public love with the polished compositions of our noblest poets. Their influence is still felt throughout our land, but more especially among the hills and glens and old towers of the northern border. Let us attempt to conduct the reader over the green hills, through the haunted glens, among the clear streams and ruined towers which are famous in ballad verse, giving life at the same time to our own remarks by quoting choice snatches of the finest of our historical strains.

Chevy Chace.

Had two minstrels resolved to conceive and produce imaginative legends of sea and land, they could have brought forth nothing more romantic in narrative, or more poetic in circumstance, than 'Chevy Chace,' and 'Sir Andrew Barton.' They are history and truth: but history excited, elevated, and inspired; truth all life, spirit, and heroism. They record contests of a national character which fell out when these kingdoms were not, as now, united; and they celebrate the deeds of the fiery Douglases, the heroic Percies, and the chivalrous Howards: they are perfect examples of our best ballad spirit, and of that manly feeling which generally distinguished the warfare waged of old by the English and Scotch. Blood was not shed from a tiger-like love of spilling it: vengeance had no part in their strife; even the bards, who shared in the fray and recorded it, raise no cry of exultation or of triumph. "The English on the one side," says Froissart, who lived when Chevy Chace was fought, and had conversed with the different warriors, "and the Scots on the other, are good men of war; for when they meet there is a hard fight without sparing, as long as spears, swords, axes, or daggers will endure. And when they are well beaten, and the one party hath obtained the victory, they then glorify so in their deeds of arms, and are so joyful, that such as are taken they will admit to ransom ere they stir from the field; so that shortly each of them is so content with other, that at their departing they will courteously say, 'God thank you.'"

The battle of Chevy Chace had its origin in the rivalry of the Percies and Douglases for honour and arms: their castles and lands lay on the Border; their pennons oft met on the Marches; their war-cries were raised either in hostility or defiance when the Border riders assembled; and though the chiefs of those haughty names had encountered on fields of battle, this seemed to stimulate rather than satisfy their desire of glory: in the spirit of those chivalrous times Percy made a vow that he would enter Scotland, take his pleasure in the Border woods for three summer-days, and slay at his will the deer on the domains of his rival. "Tell him," said Douglas, when the vaunt was reported, "tell him he will find one day more than enough." Into Scotland, with 1500 chosen archers and greyhounds for the chace, Percy marched accordingly, at the time "when yeomen win their hay;" the dogs ran, the arrows flew, and great was the slaughter among the bucks of the Border. As Percy stood and gazed on "a hundred dead fallow-deer" and "harts of grice," and tasted wine and venison hastily cooked under the greenwood tree, he said to his men, "Douglas vowed he would meet me here; but since he is not come, and we have fulfilled our promise, let us be gone." With that one of his squires exclaimed—

> "Lo, yonder doth Earl Douglas come,
> His men in armour bright:
> Full twenty hundred Scottish spears
> All marching in our sight;
>
> All men of pleasant Tiviot-dale,
> Fast by the river Tweed.
> O cease your sport, Earl Percy said,
> And take your bows with speed."

It was indeed high time to quit the chace of the deer and feel that their bowstrings were unchafed and serviceable, for stern work was at hand. The coming of the Scots is announced with a proper minstrel flourish:—

> "Earl Douglas on his milk-white steed,
> Most like a baron bold,
> Rode foremost of his company,
> Whose armour shone like gold.
>
> Show me, said he, whose men you be,
> That hunt so boldly here;
> That without my consent do chase
> And kill my fallow-deer."

To this haughty demand the first man that made answer was Percy himself: he replied, "We choose not to say whose men we are; but we will risk our best blood to slay these fallow-deer." "By St. Bride, then, one of us shall die!" exclaimed Douglas in anger. "I know thee; thou art an earl as well as myself, and a Percy too: so set thy men aside, for they have done me no offence; draw thy sword, and let us settle this feud ourselves." And he sprung to the ground as he spoke. "Be he accursed," replied Percy, "who says nay to this;" and he drew his sword also.

> "Then stepp'd a gallant squire forth,
> Witherington was his name;
> Who said, I would not have it told
> To Henry our king for shame,
>
> That e'er my captain fought on foot,
> And I stood looking on.
> You are two earls, said Witherington,
> And I a squire alone:
>
> I'll do the best that do I may,
> While I have power to stand:
> While I have power to wield my sword,
> I'll fight with heart and hand."

This resolution met with the instant support of the English bowmen. The Scottish writers allege that it was acceptable to the chiefs on the southron side, who could not but feel that their Percy was no match for the terrible Douglas. Be that as it may, the interposition of Witherington was seconded by a flight of arrows :—

" Our English archers bent their bows,
Their hearts were good and true :
At the first flight of arrows sent
Full fourscore Scots they slew."

This sudden discharge and severe execution did not dismay Douglas : " his men of pleasant Tiviot-dale " levelled their spears and rushed on the English archers, who, throwing aside their bows, engaged in close contest with sword and axe.

" The battle closed on every side,
No slackness there was found,
And many a gallant gentleman
Lay gasping on the ground.

O, but it was a grief to see,
And likewise for to hear
The cries of men lying in their gore,
And scatter'd here and there."

In the midst of the strife the two leaders met, and that single combat ensued which Witherington had laboured to prevent : they were both clad in complete mail, and the encounter was fierce :—

" They fought until they both did sweat,
With swords of temper'd steel ;
Until the blood, like drops of rain,
They trickling down did feel."

" Yield thee, Percy," exclaimed Douglas, who seems to have thought that he had the best of it : " Yield thee. I shall freely pay thy ransom, and thy advancement shall be high with our Scottish king." This was resented by the high-souled Englishman :—

" No, Douglas, quoth Earl Percy then,
Thy proffer I do scorn :
I would not yield to any Scot
That ever yet was born."

During this brief parley the contest among their followers raged far and wide; nor had the peril of Percy been unobserved by one who had the power to avert it : as he uttered the heroic sentiment recorded in the last verse, an end—a not uncommon one in those days—was put to the combat between the two earls :—

" With that there came an arrow keen
Out of an English bow,
Which struck Earl Douglas to the heart
A deep and deadly blow."

" Fight on, my merry men," exclaimed the expiring hero. Percy was deeply moved : he took the dead man by the hand, and said, " Earl Douglas, I would give all my lands to save thee : a more redoubted knight never perished by such a chance." The fall of Douglas was seen from a distant part of the strife by a gallant knight of Scotland, who vowed instant vengeance :—

" Sir Hugh Montgomery was he call'd,
Who with a spear most bright,
And mounted on a gallant steed,
Rode fiercely through the fight.

He pass'd the English archers all,
Without or dread or fear,
And through Earl Percy's fair bodie
He thrust his hateful spear.

With such a vehement force and might
He did his body gore,
The spear ran through the other side
A long cloth-yard and more."

The career of the Scot and the fall of the Englishman were observed and avenged. The Scottish spear, the national weapon of the north, was employed against Percy ; the cloth-yard shaft, the national weapon of the south, was directed against Montgomery :—

" Thus did those two bold nobles die,
Whose courage none could stain.
An English archer soon perceived
His noble lord was slain :

He had a bow bent in his hand,
Made of a trusty tree ;
An arrow of a cloth-yard length
Unto the head drew he.

Against Sir Hugh Montgomery there
So right his shaft he set ;
The gray-goose wing that was thereon
In his heart's blood was wet."

With the fall of their chiefs and leaders the contest did not conclude : the battle began at break of day : Douglas and Percy are supposed to have fallen in the afternoon ; but squires and grooms carried on the contention till the sun was set ; and even when the evening bell rung it was scarcely over. " Of twenty hundred Scottish spears," says the English version of the ballad, " scarce fifty-five did flee." " Of fifteen hundred Scottish spears," says the northern edition, " went home but fifty-three." So both nations claim the victory ; but in an older copy the minstrel leaves it undecided ; though Froissart, in the account which he drew from knights of both lands, says the Scotch were the conquerors. On both sides the flower of the border chivalry was engaged. The warlike names of Lovel, Heron, Widdrington, Liddel, Ratcliffe, and Egerton, were sufferers on the side of the Percies ; while with Douglas fell Montgomery, Scott, Swinton, Johnstone, Maxwell, and Stewart of Dalswinton. The pennon and spear of Percy were carried with Montgomery's body to the castle of Eglinton ; and it is said that, when a late duke of Northumberland requested their restoration, the earl of Eglinton replied, " There is as good lea-land here as on Chevy Chace—let Percy come and take them."

We shall not attempt to vindicate our admiration of this ballad by quoting the praise of Sidney, the criticism of Addison, or the commendation of Scott : there are, we believe, few memories without a portion of it : we have heard it quoted by the dull as well as by the bright ; by the learned as well as by the illiterate ; nay, we once heard an accomplished lady sing it to the harp while the greatest genius of our isle since the days of Milton witnessed its beauty by his tears. Nor was it the heroism and chivalry of the ballad which called forth such testimony : it contains bits of tenderness which our painters as well as our poets have felt :—

" Next day did many widows come,
Their husbands to bewail ;
They wash'd their wounds in brinish tears,
But all would not prevail.

Their bodies, bathed in purple gore,
They bore with them away ;
And kiss'd them dead a thousand times
Ere they were clad in clay."

SIR ANDREW BARTON.

Let us turn from the heroic contest on land to the no less heroic strife at sea between England and Scotland : we shall find in the ballad of ' Sir Andrew Barton ' actions as chivalrous, a devotion as unswerving, and poetic sentiment as bright and lofty, as are exhibited in the song of ' Chevy Chace.' The battle which this ballad celebrates was fought in the year 1511, between a gallant Scottish mariner, Sir Andrew Barton, and Sir Thomas Howard and Sir Edward his brother, sons to the earl of Surrey, afterwards duke of Norfolk. Barton, it appears, having suffered both insult and loss from the Portuguese, fitted out two ships of war, by permission of James IV. of Scotland, to make reprisals, and such was his success that he enriched himself and became the terror of the seas. Under pretence of searching for Portuguese merchandise, he stopped and, it is added, pillaged, some of the ships of England. This so exasperated Surrey, that he declared at the English council-board that the narrow seas should not be so infested while he had an estate to furnish a ship, and a son to command one. King Henry took Surrey at his word: two ships were fitted out at the earl's expense, and sent to sea under the command of his sons, with orders to intercept and capture Barton, which they were not the less willing to undertake, knowing that his ships were richly laden. The engagement which ensued was bloody and obstinate, and of long duration; but the fortune of the Howards prevailed: Barton fell fighting valiantly; his ships were carried into the Thames: the wealth obtained was large, and Sir Edward Howard was soon afterwards created Admiral of England. This act, committed in the time of peace, exasperated the Scots: Henry, to pacify them, liberated the crews, and offered to allow the aggrieved parties to prosecute their claims of restitution in the English courts of law.

The ballad begins by saying that one day, as King Henry rode out on the side of the Thames to take the air, no less than fourscore of the merchants of London came and knelt before him. "Welcome, welcome, rich merchants all," said the king, pleased with their humility. "By the rood, sire," exclaimed the whole fourscore, "we are not rich merchants; how indeed can we be so, since a cruel rover, a proud Scot, attacks us, as we sail, and robs us of our merchandise?" The king frowned on lord and merchant, and swore by the true cross that he thought no one dared to do his land such wrong: then, fixing his eye on Howard, he added, "Have I never a lord in my realm who will fetch that proud Scot into my presence?" "I will attempt it, at least, my liege," replied Howard. "Thou!" said Henry; "no, no; thou art very young, and yon Scot is an experienced mariner." "If I fail to conquer him," replied Howard, "I will never again appear before you." "Go, then," answered Henry, "and choose two of my best ships, and man them with my ablest mariners." Howard, though young, selected ships and seamen with the skill of a veteran:—

"The first man that Lord Howard chose
  Was the ablest gunner in all the realm,
Though he was threescore years and ten;
  Good Peter Simon was his name.
Peter, says he, I must to the sea,
  To bring home a traitor live or dead;
Before all gunners I have chosen thee,
  Of a hundred gunners to be the head.

If you, my lord, have chosen me,
  Of a hundred gunners to take the head;
Then hang me up on yon mainmast-tree
  If I miss my mark one shilling bread.
My lord then chose a bowman rare,
  Whose active hands had gained fame;
In Yorkshire was this gentleman borne,
  And William Horseley was his name."

This Yorkshire archer had skill equal to that of the veteran gunner; so with plenty of guns and pikes and good yew-bows, and able crews and seaworthy ships, Howard set sail on this adventure. He was but short way gone when he met Henry Hunt, a merchant of Newcastle, who, with "a heavy heart and a careful mind," was on his voyage homeward. "Hast thou seen Andrew Barton," inquired Howard, "or canst thou tell me aught of him?" "Ah, but too well can I speak of that cruel Scotch rover," replied Henry Hunt; "he met me but yesterday, and robbed me of all I possessed; and now I go to lay my complaint at the throne of King Henry." "Thou shalt not need, man," said Howard; "return and show me Andrew Barton, and for every shilling lost I shall give thee three." "Ah, ye little know whom ye seek," answered Henry Hunt:—

"He is brass within and steel without,
  With beams on his top-castle strong,
And eighteen pieces of ordinance
  He carries on each side along.
And he hath a pinnace dight;
  St. Andrew's cross that is his guide—
His pinnace beareth ninescore men,
  And fifteen cannons on each side.
Were ye twenty ships and he but one,
  I swear, by kirk and bower and hall,
He would overcome them every one,
  If once his beams they do downfal.
This is cold comfort, said my lord,
  To welcome a stranger thus to the sea;
But I'll bring him and his ships to shore,
  Or to Scotland he shall carry me."

"I'll go with you, and that willingly," said the stout man of Newcastle; "but you must have a gunner skilful enough to sink his pinnace—you must not allow him to send a man aloft to lower his boarding-beams—and you must permit me to set you a glass in which his ship will be reflected, be it day or night." "All this shall be as you wish," said Howard, and continued on his course.

"The merchant set my lord a glass,
  So well apparent in his sight;
And on the morrow by nine o'clock
  He show'd him Sir Andrew Barton, knight.
His hatch-board it was gilt with gold,
  So clearly dight it dazzled the ee;
Now by my faith, Lord Howard says,
  This is a gallant sight to see."

"Take in your pennons," said Howard to his men, "and put up a peeled willow-wand, and let us look like merchants on a voyage of profit." As they did this they passed Barton's ship without notice or salute: the Scot was incensed. "Now, by the rood," he exclaimed, "I have ruled the sea these full three years and more, and never saw churles so scant of courtesy before. Go," he said to the captain of his pinnace, "fetch yond pedlers back; I swear they shall be all hanged at my mainmast." Now was the counsel of Henry Hunt of use to Lord Howard: the first broadside from the pinnace having struck down his foremast and killed fourteen of his men, he called Simon his gunner and threatened to hang him if he failed to sink the pinnace:—

"Simon was old, but his heart it was bold,
  His ordinance he laid right low;
He put in a chain full nine yards long,
  With other great shot, less or mo.
And he let go his great-gun-shot;
  So well he settled it with his ee,
The first sight that Sir Andrew saw
  Was his pinnace sinking in the sea."

When Sir Andrew saw this, he cried, "I will fetch yond pedlers back myself." "Now spread your pennons and beat your drums," exclaimed Lord Howard, "and let the Scot know who we are." "Fight on, my gallant men," said Sir Andrew, not at all alarmed; "this is the high admiral of England come to seek me on the sea." As he said this he was assailed on both sides; threescore of his men fell by one shot from old Simon, and fourscore fell by another from Henry Hunt. "Ah!" cried he, "that last deadly shot came from the merchant who was my prisoner but yesterday. Now, Gordon, thou wert ever good and true; three hundred marks are thine to go aloft and let my beams fall." Gordon went aloft in a moment, but as "he swerved the mainmast-tree" an arrow from Horseley pierced his brain, and he fell lifeless on the deck; Hamilton, the sister's son of Sir Andrew, went next aloft, but as he began to sway the beams another shaft from the same dread archer sent him the same way as Gordon. A sad man was Sir Andrew when he saw this. "Go, fetch me my armour of proof," he exclaimed; "I will go myself and lower the beams." He clothed himself in his armour of proof, and brave and noble, says the minstrel, he looked, and went aloft dauntlessly. "Now, Horseley," said Lord Howard, "I will make thee a knight if thy shot is good; but if bad, I will hang thee." "Your honour shall judge," whispered the archer; "but I have only two arrows left."

"Sir Andrew he did swarve the tree,
  With right good will he swarved then;
Right on his breast did Horseley hit,
  But the arrow bounded back again.

Then Horseley spied a privy place,
With a perfect eye, in a secret part;
All under the spole of his right arm
He smote Sir Andrew to the heart.

Fight on, my men, Sir Andrew says,
A little I'm hurt, but not yet slain;
I'll but lay me down and bleed awhile,
And then I'll rise and fight again.
Fight on, my men, Sir Andrew says,
And never flinch before the foe,
And stand fast by St. Andrew's cross
Until you hear my whistle blow.

They never heard his whistle blow,
Which made their hearts wax sore adred;
Then Horseley said, Aboard, my lord,
For well I wot Sir Andrew's dead.
They boarded then his noble ship,
They boarded it with might and main—
Eighteen score Scots alive they found,
The rest were either maim'd or slain."

Howard struck off Sir Andrew's head, saying, "Hadst thou been alive, I must not have looked on England for many a day."—When King Henry saw the pale face, the hollow eyes, and the noble countenance, "I would give," he said, "a thousand marks were that man alive as he is dead." Henry Hunt was advanced; Peter Simon received five hundred marks; and Horseley was knighted. Such was the end of Sir Andrew Barton: his invention of letting down beams from his mainmast, to the discomfiture of his enemy, has perished with him, for no one has explained it scientifically or satisfactorily.

King Henry and the Miller of Mansfield.

That the ballads of 'Henry the Second and the Miller of Mansfield,' and 'Edward the Fourth and the Tanner of Tamworth,' are records of real events is a belief common to the shepherd, the husbandman, and the mechanic, if not countenanced by the strict and scrupulous antiquary. They are true to the character of the people as well as to the characters of the two monarchs; they are remarkable for their jolly humour, their lively manners, and hearty and homely old English feelings.

To Henry II., one of the best and most generous of our monarchs, many romantic adventures are ascribed: his love passages with the Fair Rosamond employed the pens of our early poets; his troubles, occasioned by his rebellious children, have called down the sympathy of all historians; while his encounter with the merry Miller of Mansfield not only furnished a theme for "a metre ballad-monger," but seems to have supplied Chaucer with a hint for his inimitable story of the 'Miller of Trompington.' Percy, indeed, seeks the original of the 'Miller of Mansfield,' in 'John the Reeve,' a poem on an adventure between Edward I. and one of his royal bailiffs. The resemblance is strong, but ballad-makers may say with the rural proverb, "Like is a bad mark among your neighbours' sheep:" it is impossible to settle originality by the aid of resemblance. The story was popular, and one poet reckoned he had as good a right to it as another. The ballad is very old, the humour genuine, and the incidents diverting.

King Henry, says the minstrel, rode on a time to Sherwood to hunt the hart and the buck, which he did with such good-will that he left all his lords far behind, and lost both his game and his way; the more he sought for a road, the more astray he went:—

"Wandering thus wearily, all alone, up and down,
With a rude Miller he met at the last:
Asking the ready way unto fair Nottingham;
Sir, quoth the Miller, I mean not to jest,
Yet I think, what I think, the sooth for to say,
You do not lightly ride out of your way.

Why, what dost thou think me, quoth our King merrily,
Passing thy judgment upon me so brief?
Good faith, said the Miller, I mean not to flatter thee,
I guess thee to be but some gentleman thief:
Stand thee back in the dark, and light not adown,
Lest that I presently crack thy knave's crown."

The king smiled, and said, "I am not a thief, but a true gentleman. I have lost my way, and seek for a lodging."—"Thou a gentleman!" exclaimed the Miller; "why, all thy estate hangs on thy back, and hast not one penny in thy purse. Yet thou mayest be a true man; and if thou art, I will give thee a lodging."—"A true man," said his majesty, "I have ever been, and there's my hand on it."—"Nay, friend," observed the Miller, "I shake no hands in the dark; I must know thee better before we cross palms: but, come on, we are now close at my house." At the house the king soon arrived; it smelled strongly of puddings and seething souse, and was full of smoke; yet for all the smoke there was light enough for the Miller to peruse the monarch's face by:—

"I like well thy countenance, thou hast an honest face;
With my son Richard this night shalt thou lie:
Quoth his wife, By my troth it is a handsome youth,
Yet it is best, husband, to deal warilye.
Art thou no runaway, prithee youth tell?
Show me thy passport, and all shall be well."

The young monarch bowed as the wife urged her scruples. "I am but a poor courtier," he said, "and have ridden out of my way; any kindness you can show me will be amply requited."

"Then to the Miller his wife whisper'd secretly,
Saying, It seemeth this youth's of good kin,
Both by his apparel, and eke by his manners;
To turn him out certainly were a great sin.
Yea, quoth he, you may see he hath some grace,
When he doth speak to his betters in place."

The wife then said to King Henry—"Young man, thou art welcome; and as thou art welcome, thy lodging shall be of the best; I will give fresh straw to thy bed, and spread good brown hempen sheets upon it."

"Then to their supper were they set orderlye,
With hot bag-puddings and good apple-pyes,
Nappy ale, good and stale, in a brown bowl,
Which did about the board merrylye trowl."

"I drink to thee, good fellow, and to all who are ruled by petticoats, wherever they be," said the Miller, taking an enormous pull at the bowl: "And I pledge thee faithfully, host," replied the king, "and thank thee for this welcome; but let me mind manners and drink to thy son."—"Prithee, friend," said Richard, "talk less and drink more; you detain the bowl." The good ale opened more fully the social Miller's heart.

"Wife, quoth the Miller, fetch me forth Lightfoot,
And of his sweetness a little we'll taste.
A fair venison-pasty brought she out presently:
Eat, quoth the Miller; but, mind me, no waste!
Here's dainty Lightfoot, in faith, said the King,
I never before ate of so dainty a thing."

"It is no dainty at all here, sir," said Richard, the son, "we eat of it every day!"—"Indeed!" answered the king; "and in what town may it be bought?"—"Bought!" exclaimed the other; "why we never pay a penny for it; we find it running beside us in merry Sherwood."

"Then I think, said our King, that it is venison.
Each fool, quoth Richard, full well may know that;
Never are we without two or three in the house,
Very well fleshed and excellent fat:
But prithee say nothing wherever thou go;
We would not for two-pence the king should it know."

"Doubt me not," replied Henry, "the king shall never know more on it for me;" and after a mighty draught of that provincial compound of ale and wine called lamb's-wool, his majesty went to repose on his fresh straw and sheets of brown hemp. His courtiers, who had lost him at night, found him in the morning at the Miller's door ready to mount and begone. They dropped on their knees and called him "Sire," which made the Miller's heart start—he thought at once of his rough welcome, the perilous secret of the venison-pasty, and of the gallows.

"The King, perceiving him fearfully trembling,
Drew forth his sword, but nothing he sed;
The Miller down did fall, crying before them all,
Doubting the King would have cut off his head.
But he, his courtesie for to requite,
Gave him great living, and dubb'd him a knight."

When King Henry reached Westminster, and with his courtiers talked over all their sports and pastimes, he declared that the Miller of Mansfield's sport was the best, and vowed that he should not be satisfied till he had him with his wife and son to court. No sooner had the messenger delivered the royal order than the Miller exclaimed, "I don't understand the jest; what are we to do at court?"—"To be hanged at least," said the comforter Richard, remembering his own tattle in the matter of Lightfoot. "Not so, indeed," replied the messenger; "the king loves you, and provides a great feast for your sake."

"Then, said the Miller, by my troth, messenger,
Thou hast contented my worship full well;
Hold, here are three farthings to quit thy gentleness
For these happy tidings which thou dost tell.
Let me see; hear thou me; tell to our king
We'll wait on his mastership in everything."

No sooner was the royal messenger gone than the Miller and his household began to meditate on the expense as well as equipment suitable for this journey and visit. "Here come outlay and charges indeed," exclaimed the Miller; "but we must appear with dignity, though all we have gathered should go: we have need of new garments, of horses, and servant-men, of bridles and saddles; this will be a salt matter." The wit of his lady came to the help of the new-made knight of Mansfield:—

"Tush, Sir John, quoth his wife, why should you fret or frown?
You shall ne'er be at no charges for me,
For I will turn and trim up my old russet gown,
With everything else as fine as may be:
And on our mill-horses swift we will ride,
With pillows and pannels as we shall provide.

In this most stately sort rode they unto the court,
Their jolly son Richard rode foremost of all,
Who set up, for good hap, a cock's feather in his cap,
And so they jetted down to the King's hall;
The merry old Miller with hands on his side,
His wife, like Maid Marian, did mince at that tide."

Now there can be no question that the Miller and his household played off on this visit a little of the art and wit of the clouted shoe—appearing before Henry and his courtiers in rough country trim, abating no jot of rustic manners or dress. The contrast was to his majesty's liking, and the game was kept up with much spirit. "Welcome, Sir Knight," said the King courteously, "and welcome to your gay lady; and welcome to thee, too, young squire."—"A bots on you; and do you know me?" said Richard. "How should I forget thee?" replied his majesty, gravely, "for thou wert my bedfellow, well I wot."—"Ay!" answered Dick, "and by this token thou didst air the sheets royally."—"Ah! knave," said the Knight of Mansfield, "thou hast no more manners than —" The coming of the queen interrupted this discourse; she spoke kindly and graciously, and gravely enjoyed the embarrassment of the Miller's dame, who stood as stiff before her as the queen of spades, while she dropped a courtesy at every word. The dinner-scene was the crowning glory of this visit; the Miller ate all and drank all that was offered, wine, ale, and beer, without a word: he spoke at last:—

"Quoth Sir John Cockle, I'll pledge you a pottle,
Were it the best ale in Nottinghamshire.
Aha, said the King, now I think of a thing,
Some of your Lightfoot I would we had here.
Ho! ho! quoth Richard, full well I may say it,
'T is knavery to eat it and then to betray it."

"Thou sayest true, Richard," said the King; "but be not angry; let us have a cup of wine together."—"Stay till I have dined; stay till I have dined," exclaimed the Miller's son; "I make but small way among these twatling dishes of thine; a black pudding were worth them all."—"Ay, marry would it, man," replied the monarch, remembering his hearty supper at the Miller's house; "and I wish we had one here."—"I have one," said Dick, pulling a large pudding out from his huge hose, to the great increase of merriment at the royal table. The King, observing the young rustic to be a vigorous lout, said, "If thou wishest to wed, look round among my ladies there, and choose thee a wife." Dick surveyed with some disdain the plumed groups of mincing and bridling madams, and exclaimed, "Why, my own love, Jugg Grumball, with the red head, is worth them all!"—

"Then Sir John Cockle the King called unto him,
And of merry Sherwood made him o'erseer,
And gave him out of hand three hundred pound yearly.
Take heed now you steal no more of my deer;
And once a quarter let's here have your view;
And now, Sir John Cockle, I bid you adieu."

KING EDWARD AND THE TANNER OF TAMWORTH.

The ballad of 'King Edward and the Tanner of Tamworth' was long in high fame with our ancestors. It exhibits not only the free manners of the people, but contains a clever specimen of their oblique humour, their mingled seriousness and drollery, and their love of jests approaching to the practical. The King acquits himself as well in the war of words as he did when he battled for his crown; and it must be owned that the Tanner is all but his match: his rough tumble from the monarch's horse is but an acquittal for his saucy wit in telling the King that his best way was by the next gibbet. The ballad is alluded to by several of our early writers, and quoted as a signal instance of a drolling quaint humour common to the peasantry: the title of the copy in the Bodleian Library is of itself curious—'A merrie, pleasant, and delectable History between King Edward the Fourth and the Tanner of Tamworth;' London, 1596.

The poem begins in the usual way of minstrel stories. In the summer, when leaves are green and the air pleasant, King Edward took with him hawk and horn, and hound and bow, and also a supply of courtiers, and went to rouse the deer of Drayton Basset:—

"And he had ridden o'er dale and down
By eight o'clock in the day,
When he was ware of a bold Tanner
Come riding along the way.

A fair russet coat the Tanner had on,
Fast button'd below his chin;
And under him a good cow-hide,
And a mare of four shillin."

"Now one and all of you," said the King to his train, "stay under the green wood, till I hold some talk with yond fellow who rides so boldly."

"God speed thee, God speed thee, said our King,
Thou art welcome, sir, said he;
The readiest way to Drayton Basset
I pray thee show to me.

To Drayton Basset wouldst thou go,
Fro' the place where thou dost stand,
The next pair of gallows thou comest unto,
Turn in on thy right hand."

"Nay, that is an unready road," replied the King, "and I see thou dost but jest; pray tell me the nearest way; and, now I think upon it, thou mayest as well go with me and show it." "Show it!" exclaimed the Tanner; "away, with a vengeance; art out of thy wits? dost not know that I have ridden all day on my mare Brocke, and that I am fasting yet?"—

"Go with me down to Drayton Basset,
No dainties we will spare;
All day shalt thou eat and drink of the best,
And I will pay thy fare.

Gramercy for nothing, the Tanner replied,
Thou payest no fare of mine;
I trow I've more nobles in my purse
Than thou hast pence in thine.

God give you joy of them, said the King,
And send them well to prief;
The Tanner would fain have been away,
He weened he was with a thief."

This suspicion no sooner crossed the Tanner's brain than he turned to the King and inquired, "Come, now, fine fellow, tell me what thou art? Why, the clothes on thy back are fit for a lord; I doubt thee much, I promise thee."

"I never stole them, quoth our King,
I tell you, sir, by the rood;
Then thou playest as many an unthrift doth,
And stands in midst of thy good.

What tidings hear you, inquired the King,
As you ride far and near?
I hear no tidings, sir, by the mass,
But that cow-hides are dear.

Cow-hides! cow-hides! what things are those?
I marvel what they be!
Why, art thou a fool? the Tanner replied;
I carry one under me."

The King inwardly smiled as he cast his eye on the Tanner's unsavoury saddle, and said, "I pray thee, tell me what craft thou art of?" "I am a tanner, man," replied the other; "what may your trade be?" "Even a poor courtier," answered Edward; "a poor courtier, and out of place, who fain would learn an honest trade; wilt thou take me as an apprentice?" "Nay, Heaven above keep me from such a 'prentice," said the Tanner; "thou wouldst spend more than all thy winnings, by at least forty shillings a year:"—

"Yet one thing would I, said our King,
If thou wilt not seem strange;
Though my horse be better than thy mare,
Yet with thee I fain would change.

Why, if with me thou fain would change,
As change full well may we,
By the faith of my body, thou proud fellow,
I will have some boot of thee.

For, sir, my Brocke is gentle and mild,
And softly will she fare;
Thy horse is unruly and wild, I wis,
Aye stepping here and there."

"Well, what boot dost thou ask?" inquired the King. "Oh, little, a mere trifle," said the Tanner; "only a gold noble." "Here are twenty silver groats, and that is as good," answered Edward, "as a gold noble." "Ha! I could have sworn," said the Tanner, "thou wert not worth a single penny; but hark ye! though thou hast got Brocke, my mare, thou shalt not have my cow-hide." "Keep it, man," replied the monarch, "I would not sit on a thing so foul."

"The Tanner he took his good cow-hide
That of the cow was hilt,
And threw it upon the King's saddle
That was so fairlie gilt.

Now help me up, thou fine fellow,
'T is time that I were gone:
When I come home to Gillian, my wife,
She 'll say I am a gentlemon."

The good-natured monarch took his subject by the leg to give him a lift. The Tanner, glad at having twenty silver groats in his pocket, and a better horse than Brocke, his mare, under him, took his seat gaily, yet marvelling whether the stirrups were gold or brass, and started for home; but on this he had neglected to consult his horse:—

"For when the steed saw the cow's tail wag,
And eke the black cow-horn,
He stamp'd and stared, and away he ran,
As the devil had him born.

The Tanner he pull'd, the Tanner he swet,
And held by the pommel fast;
At length the Tanner came tumbling down,
His neck he well nigh brast."

"Take thy horse, with a vengeance," cried the Tanner, rising uneasily; "such a wild devil shall not abide with me." "Well," replied Edward, "if thou wilt change, as change we may if we choose, by my faith, my jolly Tanner, I must have some boot to the bargain." "Boot!" exclaimed the other, "what boot dost thou ask?" "Neither pence nor halfpence," was the reply, "but twenty good pounds." "Be reasonable, man, for once," said the Tanner; "I had twenty groats out of thy purse, here's twenty out of mine, and I have one yet left, which I would willingly lay out in wine on thee at the next change-house."

"The King set a bugle-horn to his mouth,
And blew both loud and shrill;
And soon came lords, and soon came knights,
Fast riding over the hill.

Now out and alas, the Tanner he cried,
That ever I saw this day;
Thou art a strong thief, yond come thy fellows
To take my cow-hide away.

They are no thieves, the King replied,
I swear so mote I thee;
But they are all lords of this north land,
Come hither to hunt with me."

Wide stared the eyes of the Tanner, and his heart throbbed in alarm, when he saw all the courtiers and lords come crowding in and fall on their knees to one whom he had used so saucily: he wished himself elsewhere.

"A collar, a collar here, said our King,
A collar, he loud 'gan cry;
The Tanner would lever than twenty pound
He had not been so nigh.

A collar, a collar, the Tanner he said,
I trow it will breed sorrow;
After a collar there cometh a halter,
And I shall be hang'd to-morrow."

"I mean thee no such exaltation," said the King; "I shall only make thee an esquire; one of the best in all this north country, for I bestow Plympton Park with all its tenements on thee, with three hundred pounds a-year to maintain thy good cow-hide."

"Gramercy, my liege, the Tanner replied,
And I swear by sun and moon
That, when thou comest to merry Tamworth,
Leather shall clout thy shoon!"

Thus ends the merry story of the 'King and the Tanner of Tamworth;' and though we have store of adventures, such as 'Henry VIII. and the Cobbler,' 'James I. and the Tinker,' 'William III. and the Forester,' we shall conclude these regal rhymes once and away.

LORD WILLOUGHBY.

We turn from royal or rustic drolleries at home to heroic actions abroad; nor shall we find higher or happier instances of England's fortitude and daring than in the once popular ballads of 'Lord Willoughby' and 'Mary Ambree,' both of which picture real characters and chronicle true events. Peregrine Bertie, Lord Willoughby, lived in the days of Elizabeth, and was distinguished for his handsome person, his skill with the sword, his bravery in war, and his utter scorn of that creeping obsequiousness by which inferior men rose at court. He slighted great courtiers, paid little attention to the queen, and rejoiced, it is said, when sent to the Low Country wars, where he distinguished himself greatly at the siege of Zutphen: he also commanded the English auxiliaries on the recal of the Earl of Leicester, and worsted the Spaniards in various hardy and heady encounters. On one of these exploits the ballad is founded; it has always been a favourite with the people, from its triumphing over the Spaniards, and its encomiums on the unyielding valour of the English. Lord Willoughby died in 1601: one of his captains and comrades was Sir John Norris, who, with a thousand men, forced his way for three miles through the whole Spanish army commanded by the Duke of Parma: it was the age of heroism.

The old ballad-maker detains his reader with no exordium; he rushes into action at once:—

"The fifteenth day of July,
With glistering spear and shield,
A famous fight in Flanders
Was foughten in the field.
The most courageous officers
Were English captains three;
But the bravest man in battle
Was brave Lord Willoughbee."

It would be unfair not to say that the two other officers were Captain Norris and Captain Turner, names well known in the wars of those times; and it would be unjust to the high station which the minstrel claims for English bravery to forget that the Islanders were but fifteen hundred to fourteen thousand; bows were then mixed with muskets, and the skill and strength of the English rendered them effective weapons.

"Stand to it, noble pikemen,
And look you round about;
And shoot you right, you bowmen,
And we will keep them out.
You musquet and calliver men,
Do you prove true to me:
I'll be the foremost man in fight,
Says brave Lord Willoughby."

It would appear that the English pikemen fronted the Spaniards, while over their heads the musketeers and bowmen securely plied their different and deadly weapons.

"For seven hours, to all men's view,
This fight endured sore:
Until our men so feeble grew
That they could fight no more;
And then upon dead horses
Full savourly they ate,
And drank the puddle-water,—
They could no better get."

Thus refreshed, though not with dainties, and cheered, not with hopes of escape, but of victory, and strengthened in mind by prayer, they started up and renewed the battle with a courage which surprised as well as daunted their enemies:—

"The sharp steel-pointed arrows
And bullets they did fly;
Then did our gallant soldiers
Charge on most furiously,
Which made the Spaniards waver;
They thought it best to flee,
They fear'd the stout behaviour
Of brave Lord Willoughby."

On seeing this, the Spanish general exclaimed, "Let us begone; we shall be ruined, horse and foot, if we stay: these men are commanded by Lord Willoughby, a soldier so true and fierce, that he would not yield an inch of ground were all the devils to charge him."

"And thus the fearful enemy
Was quickly put to flight;
Our men pursued courageously,
And caught their forces quite.
But at the last they gave a shout,
Which echoed through the sky;
God and St. George for England,
The conquerors did cry."

When the news of this victory reached England, and was told at court, "What!" said Queen Elizabeth, "is this the handsome Lord Willoughby? Why, he is as brave as he is handsome; and no wonder that I loved and esteemed him. He has achieved nobler deeds than any lord of honour and ancestry about my court: he shall not go unrewarded; neither shall I forget my humbler subjects who were with him:"—

"To the soldiers that were maimed
And wounded in the fray
The queen allowed a pension
Of fifteen pence a-day:
And from all costs and charges
She quit and set them free;
And this she did all for the sake
Of brave Lord Willoughby."

Nor was this all: the praise of the queen was echoed by the whole nation, and tended greatly to prepare and strengthen their spirit for the approaching encounter with the Armada, which, in 1585, the period of this battle, was in preparation. It was a national boast that one Englishman could beat three Frenchmen: the writer of this ballad alludes to the sentiment in the usual tone of minstrel exaggeration:—

"Then courage, noble Englishmen,
And never be dismay'd;
If that we be but one to ten,
We will not be afraid
To fight with foreign enemies,
And set our nation free.'
And thus I end the bloody bout
Of brave Lord Willoughby."

The nobleness of Lord Willoughby's nature was equal to his courage: when told that his fine looks and skill in all manly and chivalrous exercises would make him acceptable to Queen Elizabeth, and help him to preferment, he briefly answered, "I am none of the Reptilia." This sarcastic saying, which offended the queen, is recorded by Naunton.

MARY AMBREE.

The ballad of 'Mary Ambree' records the exploits of an obscure woman, who, like the Maid of Saragossa, inspired more by a desire of avenging her lover's death than by a love of country, performed deeds worthy of the most renowned chiefs of the days of chivalry. She was not only brave—she was also a skilful soldier: wise, sagacious, and full of resources; and, moreover, possessed the art common to all great leaders, of infusing her own soul into those she commanded. Mary Ambree, though neglected by our historians, has not been forgotten by our poets; she is mentioned in the fifth act of Fletcher's 'Scornful Lady:' Ben Jonson introduces her name often, and calls any remarkable dame Mary Ambree: in his 'Masque of the Fortunate Isles' he quotes the ballad, which he seems to have had by heart:—

"Mary Ambree,
Who marched so free
To the siege of Gaunt,
And death could not daunt,
As the ballad doth vaunt."

This ballad was printed by Percy from a black-letter copy in the Pepys Collection, and improved from the celebrated 'folio' in his own possession, where it was inserted under the following title: 'The Valorous Acts performed at Ghent by the brave bonnie lass Mary Ambree, who, in revenge of her lover's death, did play her part most gallantly. The tune is the Blind Beggar.' The rhymer who composed the ballad rushes into his subject at once, as Mary's soldiers rushed into battle:—

"When captains courageous, whom death could not daunt,
Did march to the siege of the city of Gaunt,
They muster'd their soldiers by two and by three,
And the foremost in battle was Mary Ambree."

As they advanced to the walls, Sir John Major, one of the leaders, and the lover of Mary, was slain in her sight; and slain, it is said, by treachery: this so touched her spirit, that she vowed to revenge him, and his soldiers were ready to act as she commanded. The arming of this valiant lass in the midst of the army would, in skilful hands, make a fine national picture:—

"She clothed herself from the top to the toe,
In buff of the bravest most seemly to show;
A fair shirt of mail then slipped on she;
Was not this a brave bonny lass, *Mary Ambree?*

A helmet of proof she straight did provide,
A strong arminge sword she girt by her side;
On her hand a goodly fair gauntlet put she:
Was not this a brave bonny lass, Mary Ambree?

Then took she her sword and target in hand,
Bidding all the undaunted to be of her band;
To wait on her person a thousand came free;
Was not this a brave bonny lass, Mary Ambree?"

"Now," said she to her men, "you are valiant and you are bold, so follow me: I will ever be foremost, conducting you to victory and vengeance." On this all the soldiers shouted, "We will follow; you become a warrior's dress well, and your heart agrees with your weapons: lead on."

"She cheered her soldiers, then fighting for life,
With ancient and standard, with drum and with fife;
With brave clanging trumpets that sounded so free:
Was not this a brave bonny lass, Mary Ambree?

Before I will see the worst of you all
To come into danger of death or of thrall,
This hand and this life I will venture them free:
Was she not a brave bonny lass, Mary Ambree?'

This battle took place at the gates of Ghent, in the year 1584: the place was defended by Alexander Prince of Parma, at the head of some veteran Spaniards, against whom the English auxiliaries threw themselves with their usual impetuosity, but not with their usual success:—

"She led up her soldiers in battle array,
'Gainst three times their number, by break of the day;
Seven hours in hot skirmish continued she:
Was not this a brave bonny lass, Mary Ambree?

She filled the skies with the smoke of her shot,
And her enemies' bodies with bullets so hot;
For one of her own men a score killed she:
Was not this a brave bonny lass, Mary Ambree?"

It seems, however, that one of her soldiers disliked this rough service: a gunner contrived to explode the powder and dispose of the balls belonging to the ordnance, with which she had hoped to capture the place; his guilt was so apparent, and her indignation so high, that

"Straight with her keen weapon she slash'd him in three."

Though foiled and betrayed, she did not despair: she retreated from Ghent in the most perfect order, repelling every attack of the Spaniards, and, throwing herself into a castle, prepared for defence with the same skill and courage she exhibited in her attack.

"Her foes they beset her on every side,
All thinking close siege she could never abide;
To beat down her castle they did all decree,
But stoutly defied them brave Mary Ambree.

For, taking her sword and her target in hand,
And mounting the walls, all undaunted did stand;
There daring their captains to match any three:
O, what a brave captain was Mary Ambree!'

The Spanish officers, without knowing her sex, admired her valour, and, reluctant to subject so gallant a soldier to the hazard of storming the walls, which it seems they had breached, they offered to ransom herself and her little garrison on moderate terms, threatening at the same time, in case of refusal, to spare no lives, but put all to the sword: Mary smiled as she addressed them:—

"Ye captains courageous, of valour so bold,
Whom think you before you now you do behold?
A knight, sir, of England, and captain so free,
Who shortly is destined our prisoner to be.

No captain of England behold in your sight:
Two breasts in my bosom, and therefore no knight.
No knight, sirs, of England, nor captain you see,
But a poor simple lass, called Mary Ambree."

The Spanish officers looked at one another, and held a parley in an undertone, as if weighing her words and looks against her actions: one of them spoke, and spoke gallantly:—

"But art thou a woman, as thou dost declare,
Whose valour hath proved so undaunted in war?
If England doth yield such brave lasses as thee,
Full well may they conquer, fair Mary Ambree."

She was immediately admitted to liberal terms; and, though the minstrel neglects to mention it, was, tradition says, set free without ransom: she demeaned herself, when stripped of her martial weeds, with such grace and modesty, that she captivated those whom she had foiled in war.

"The Prince of great Parma heard of her renown,
Who long had advanced for England's fair crown;
He wooed her and sued her his mistress to be,
And offered rich presents to Mary Ambree."

But Mary, it seems, had no desire to bestow anything on a foreigner but blows: she despised his love, refused his gifts, declared she loved her honour before purple or pall, and considered it a deep disgrace to an English maiden to be talked of in light terms by either a Spanish or Italian prince.

"Then to her own country she back did return,
Still holding the foes of fair England in scorn;
Therefore, English captains, of every degree,
Sing forth the brave valours of Mary Ambree."

What her reception at home was we are not told. Elizabeth was ever ready to reward a handsome man for a brave deed of arms: we are not so sure that she opened her heart to any of her sex who, like Mary Ambree, were obliged by circumstances to distinguish themselves to the neglect of the decorums of womankind. Had the queen been bountiful, the minstrel would surely have mentioned it.

SIEGE OF CADIZ.

Another ballad of the same great period of English renown relates the taking of Cadiz, in 1596, by the gallant and unfortunate Earl of Essex: it departs indeed from the ordinary ballad-measure, and wants a little of the rustic life and ease which please in our early strains; but it makes up in accuracy of detail what it wants in force of description: so much so, that it resembles a gazette in rhyme, written by a witness of the deeds of the expedition. So pleased was Essex with this achievement, which was indeed a gallant one, that he knighted no less than sixty of his followers, which occasioned the epigram—

"A gentleman of Wales, a knight of Cales,
And a laird of the north countree;
But a yeoman of Kent, with his yearly rent,
Would buy them out all three."

Cadiz was then called Cales by the sailors, and Ghent was called Gaunt by the soldiers. To retaliate on the Spaniards the wrongs they had done to England, says the ballad, Lord Howard with the fleet, and the Earl of Essex with the army, sailed suddenly to the coast of Spain, and assaulted with united fury the harbour of Cadiz, where many battle-ships lay ready for sea: nothing could resist the impetuosity of the attack:—

"Great was the crying, the running and riding,'
Which in that season was made in that place;
The beacons were fired, as need then required;
To hide their great treasure they had little space.

The great San Philip, the pride of the Spaniards,
Was burnt to the bottom and sunk in the sea;
But the San Andrew and the San Matthew
We took in fight manfully and brought away."

"Now," cried Essex, "we have settled the ships, let us storm their city, seize their treasure, slay resisting men, but spare women and children." With a loud shout the men rushed to the attack; the city was taken, the English flag was planted on the walls, and the conquerors flew on the spoil:—

"Entering the houses then of the most richest men,
For gold and treasure we searched each day;
In some places we did find pies baking left behind,
Meat at fire roasting, and folks run away.

Full of rich merchandise, every shop caught our eyes,
Damasks and satins and velvets full fair,
Which soldiers measured out by the length of their swords,
Of all commodities each had a share.

Thus Cales was taken, and our brave general
March'd to the market-place, where he did stand;
There many prisoners fell to their several shares;
Many craved mercy, and mercy they found."

While Essex admitted one to ransom and sent another to prison, and while the rougher part of the soldiery sought wealth and wine, a sterner detachment were employed in destroying images and symbols of Catholic idolatry, with which Cadiz abounded. In this fiery inquest on all things popish, it is believed that the celebrated antique statue of Alexander the Great suffered greatly. It was at the sight of this statue that Cæsar shed tears: it represented the Macedonian in a robe, armed for battle; but it was mistaken by the invading English for a military saint of the Romish calendar, and broken accordingly. An engraving of this mutilated antique was made in 1610: the marble is now nowhere to be found; the British, acquainted with its history, lately searched for it in vain. "Essex," says the bard in conclusion, "soon saw that the Spaniards delayed to ransom their city, that they might gain time to retake it; he therefore indignantly set fire to the place, and returned to his ships by the light of the burning city."

"And when that the town burned all in a flame,
With tara, tantara, away we all came."

The Distracted Puritan: Sale of Rebellion's Household Stuff.

The ballad of the 'Distracted Puritan' was written a little while before the fatal quarrel between Charles I. and the Parliament, and the ballad of the 'Sale of Rebellion's Household Stuff' was composed amid the joy of the Restoration. There are no ballads of the days of the great civil war: the public mind was too uneasy for indulgence in song: the thrush is silent when the hawk is in the air; and a poet has small heart to sing when his house is on fire and a bare sword at his throat. As ballads are the offspring of the people's mind, and may be called the voice of public feeling, they were not likely to be either composed or regarded when son warred with father, brother with brother, and religious hate mixed its bitterness with political discord. To pass from the stately tyranny of the Tudors and Stuarts to free institutions which allowed the humble worth of the land to rise, and removed plebeian genius from under the poisonous shade of the great aristocratic upas-tree, was a blessing not to be obtained without blood; for there were too many interests of the titled and the far-descended at stake to permit the natural claims of the cropped hair and the clouted shoe to go unchallenged. The upshot need not be described.

The Puritans, to whom we owe some valuable changes in our constitution, were as mystical and dictatorial in their spiritual notions as they were clear and correct in their ideas of true freedom: in religion they were bigoted, intolerant, and precise beyond all sects of Christians: their dislike of the Church of Rome and the Church of England amounted almost to madness: in matters of mere form they saw things worthy of eternal reprobation; and in the fantastic discipline and inventions of Laud they perceived the cloven foot of Antichrist. Yet, had the great question of constitutional freedom been left to the final decision of the Puritans, it would have been well for the king and the people; but they were outwitted by the Independents, who hated both kings and churches, and worshipped nothing but their own wills, which they held superior to law and gospel. The genius of Cromwell created his mighty image of empire out of very discordant and strange materials, and caused all nations to bow down before it; but with him expired their empire—it dissolved all at once like mist in the morning sun: the nation sang the song of the 'Distracted Puritan;' called a sale of 'Rebellion's Household Stuff;' and placed Charles II. on the throne without stipulation or restriction, leaving the great battle of independence to the swords of their successors.

Amid the strains which he calls 'Mad Songs,' Percy has placed 'The Distracted Puritan.' It was written, he says, by the witty Bishop Corbet, and is printed from his poems, compared with an ancient copy contained in his own manuscript folio. The picture of mind and body which it gives, though from an unfriendly pencil, seems true both in character and colour:—

"Am I mad, O noble Festus,
When zeal and godly knowledge
Have put me in hope
To deal with the pope,
As well as the best in the college?
Boldly I preach, hate a cross, hate a surplice,
Mitres, copes, and rochets;
Come, hear me pray nine times a-day,
And fill your heads with crotchets."

This devout songster was bred in the "pure Emanuel," which, interpreted, means a college in Oxford of that name, in those days a seminary of the Puritans: there the light of a new revelation dazzled his eyes, and he went forth to the benighted nation to preach down crosses and copes, rochets and surplices. At first his sanctity was doubted, and certain ill-disposed people proceeded to ill-use him:—

"They bound me like a bedlam;
They lash'd my poor four quarters;
While this I endure,
Faith makes me sure
To be one of Fox's martyrs."

For a while he endured these indignities; he knew they were of Antichrist's prescribing, and therefore an honour; but he only endured them because he believed they were foreordained; and moreover that the hour was at hand when he would have to arise and purge the superstitions and abominations of the churches at home and abroad. That hour arrived, and to work he went:—

"Of the beast's ten horns, God bless us,
I have knock'd off three already.
If they let me alone,
I'll leave him none;
But they say I'm much too heady."

Having mauled the horned beast, he marched at once on Rome, and the soldiers of the Constable Bourbon, who stormed and sacked it, did no more harm to tower and wall than our spiritual assailant, who not only humbled its strength, but crushed the great Dragon whom Luther had scotched, not killed.

"When I sack'd the seven-hill'd city,
I met the great red dragon;
I kept him aloof
With my armour of proof,
Though here I have never a rag on.

With a fiery sword and target,
There fought I with this monster;
But the sons of pride
My zeal deride,
And all my deeds misconster."

So far did the children of pride misconstrue the Puritan's actions, that they called his highest exploits feats of a heated fancy—the yeasty workings of a distempered imagination. Nay, the witty Bishop very plainly hints that, while his hero was performing in his own belief great deeds of spiritual knight-errantry, he was in truth incommoded with a strait waistcoat, and his deed regulated by keepers. He went on in words, if not in works. He encountered the Lady of Babylon riding in her pride, and unhorsed her with the lance of purification: but he did not part with her so; he next attacked her on foot, and did not quit her till he had spilt the drink which she carried in her cup of abomination. Having swept old Rome with his spiritual besom, our Puritan returned to England, where he held that the errors of the Episcopal church were numerous, and her superstitions rank. But he first confined himself to seeing visions and studying Hebrew. But he soon proceeded to matters which did not end in words: he boldly assailed Laud, and told him that he was unscriptural and popish:—

"I appear'd before the Archbishop
And all the high commission;
I gave him no grace,
But told him to his face
That he favour'd superstition."

Here the Bishop chooses to finish his sarcastic ballad. What followed in history was much too serious for light rhymes, and too dark and tragical for laughter. The Puritans might be smiled at for their imaginary gifts and insane fancies, but their swords proved sharp on the field of battle, and their blows were of weight, and not at all allegorical. They ceased not till they overturned the Episcopal Church, and set up their Presbyterian Kirk in his stead—till they had humbled the king and reduced the hierarchy to a truly apostolical state. Here they desired to stop; but the Independents, who had helped to set the stone of reform a-rolling, wished it to roll farther: and so it moved on till the nation, wearied with bloodshed and change, rose and dismissed their masters, and restored the monarchy.

The ballad called 'The Sale of Rebellion's Household Stuff' is a sarcastic exultation of triumphant loyalty over the downfall of the Rump Parliament and all the democratic institutions of the Republican Protectorate. The ballad-maker pretends to turn auctioneer, and, with a skill and tact worthy of the wittiest gentlemen of the hammer of our own times, submits to sale the castaway things of the heroes of the great Rebellion, with all their state-machinery and government-dresses and political property:—

"Rebellion hath broken up house,
And hath left me old lumber to sell:
Come hither and take your choice;
I'll promise to use you well.
Will you buy the old Speaker's chair?
Which was warm and easy to sit in,
And oft hath been clean'd, I declare,
When as it was fouler than fitting."

That any one bought the chair of Lenthal does not appear. He next offers for sale a few choice fat flitches, cut from the sides of some long-sitting committees appointed by the old parliament: into this lot he threw, as useful in cooking, a pair of bellows, made of the leathern lungs of Presbyters, to blow up the coals of discord and rebellion. On reflection, however, he withdrew the bellows: he remembered they were sacred things appertaining to the Puritan church, and to the church he relinquished them:—

"Here's a couple of stools for sale,
One's square, the t'other is round;
Betwixt them both the tail
Of the Rump fell to the ground.
Will you buy the state-council table,
Which was made of the good wain Scot;
The frame was a tottering Babel,
To uphold the Independent plot."

The satiric salesman paused between every lot, to give the purchasers time to look at the form and reflect on the historical worth of each, and then he continued his offers and descriptions of the qualities and uses of the various articles:—

"Here's the besom of Reformation,
Which should have made clean the floor;
But it swept the wealth out of the nation,
And left us of dirt good store.
Will you buy the state's spinning-wheel,
Which spun for the roper's trade?
But better it had stood still,
For now it has spun a fair thread."

In allusion to Pride's purge, and to Harrison's dispersion of the Long Parliament, our rhyming auctioneer indulges in some sallies less delicate than witty, and then passes on to the engagement, and the covenant, and the oath of abjuration —all prime instruments in promoting what was called "the good old cause:"—

"Here's a roll of the state's tobacco,
If any good fellow will take it;
No Virginia had e'er such a smack-o,
And I'll tell you how they did make it:
'T is the engagement and covenant cook'd
Up with the abjuration oath;
And many of them that have took't
Complain it was foul in the mouth."

This reminds him of the rumours of treasons and invasions which the parliament raised to keep the mind of the nation in a condition fit for their purposes; and he holds up for sale the dark-lantern, by the light of which those plots and plans were hatched and perfected; but he soon lays more interesting articles before his customers:—

"Will you buy the Rump's great saddle,
With which it jockied the nation?
And here is the belt and the bridle,
And curb of dissimulation:
And here's the trunk-hose of the Rump,
And their fair-dissembling cloak,
And a Presbyterian jump,
With an Independent smock."

With the vestment just mentioned of an Independent sister the satiric ballad-maker classes the tub in which "Joan Cromwell," kept her kitchen-stuff, with which she greased the horns of "Old Noll" when he returned tipsy from love-feasts of the sighing sisters of the covenant, or from the treasonable meetings of the Independents. The sly rhymer alluded, in this satiric touch, to the charge against Cromwell's wife of exchanging her kitchen-stuff for candles, the property of the public. He goes on with his sale:—

"Here's the purse of the public faith,
Here's the model of the sequestration,
When the old wives upon their good troth
Lent thimbles to revive the nation;
Here's Dick Cromwell's protectorship,
And here are Lambert's commissions,
And here is Hugh Peters his scrip,
Cramm'd full of tumultuous petitions."

Our auctioneer feels that he has now disposed of some of the prime articles of the parliamentary party, and seems willing to lump the remainder, which he hurries over with a sort of wicked speed, scarcely giving time for either bidding or examination. Yet perhaps (and we speak not of antiquaries only), could we be certain that the articles in the following lot were genuine, men might be tempted, should they come to the hammer now, to give a handsome penny for them: even Hewson's awl and bristles would bring their weight in diamonds.

"And here are old Noll's brewing vessels,
And here are his dray and his slings;
Here are Hewson's awl and his bristles,
With diverse other odd things:
And what is the price doth belong
To all these matters before ye?
I'll sell them all for an old song,
And so I do end my story."

The concluding hit is the hardest of all: not a soul has bid a penny for all the rhyming salesman's descriptive puffs; he has been obliged to lay down all the Rump Parliament's stock-in-trade unsold, so he contemptuously offers them for an old song, drops his hammer, and concludes his auction.

So great was the joy of the nation at the dissolution of the Republic, that a whole volume of songs was printed and mostly written on the occasion: it was called 'Rump, or an exact Collection of the choicest Poems and Songs relating to the late Times; by the most eminent Wits,' and was 'printed for Harry Brome, at the Gun, in Ivy Lane; and Harry Marsh, at the Prince's Arms, in Chancery Lane: 1662.' But though these Rump Songs extend to upwards of 400 pages, and were composed by "the most eminent wits," they are uniformly flat and dull, and have only the merit of being bitter and coarse. A few passable verses may however be gleaned, but none equal to the ballads named at the head of this article. It would appear that Pym was the most cordially hated of all the parliamentarians; at least more pointed as well as pointless sarcasms are aimed at him in the Rump Songs than at Cromwell himself: the best of these is called 'Pym's Anarchy:'—

" Ask me not why the gaol confines
Our hierarchy of best divines?
Since some in parliament agree
'T is for the subject's liberty.

Ask me not why to London comes
So many muskets, pikes, and drums?
Although you fear they 'll never cease,
'T is to protect the kingdom's peace.

Ask me no more why Lesly goes
To seize all rich men as his foes?
Whilst country farmers sigh and sob,
Yeomen may beg when generals rob.

Ask me no more, for I grow dull,
Why Hotham kept the town of Hull?
This answer I in brief do sing—
All things were thus when Pym was king."

Enough of these forgotten ditties; but they were of weight in their day, and exhibit some of the taste and the spirit of those changeful times.

LILLIBURLERO: JEMMY DAWSON.

The history of the ballad of 'Lilliburlero' is curious and instructive: Charles II. wrangled with his people, suspended parliaments, and took bribes from France;] James, his brother, with divine right in his head and burning zeal for papistry in his heart, so insulted the majesty of England that she pushed him in loathing from her bosom, and called to her a prince of the same lineage, who gladly exchanged the crownlet of Holland for the diadem of the fairest isle of ocean and the most warlike of the nations. This change was greatly promoted by the scoffing ballad of 'Lilliburlero:' the profligate Lord Wharton penned, it is said, this satiric ditty in revenge for the King having made Richard Talbot viceroy of Ireland. The song took its name from the Papist watchword in the terrible massacre of 1641; and this circumstance, connected as it was with a scene of treachery and blood, was sufficient, without the fiery stimulus of religious differences, to give the ditty a run like the Race of Portland. On this appointment the hopes of the Catholics were raised; for Talbot, now created earl of Tyrconnel, was a fierce Papist; and the fears of the Protestants were roused, for they hated as well as suspected all who were of the ancient church. 'Lilliburlero' was therefore a welcome strain. "It made an impression," says Burnet, "on the king's army that cannot be imagined by those that saw it not. The whole army, and at last the whole people, both in city and country, were singing it perpetually; and perhaps never had so slight a thing so great an effect." It fell like a spark of fire on a powder-magazine. "Wharton, who had been viceroy of Ireland," says an authority of the time, "often boasted of his talent for mischief, invention, and lying, and more particularly for making the 'Lilliburlero' song, with which he sang a deluded prince out of three kingdoms."

The language of 'Lilliburlero' is an indifferent imitation of the Irish brogue, and in its handling the ballad resembles the dramatic mode of our old lyric compositions.

" Ho! brother Teague, dost hear the decree?
Lilliburlero, bullinala;
That we shall have a new deputie,
Lilliburlero, bullinala:
Lero, lero, lilliburlero; lero, lero, bullinala;
Lero, lero, lilliburlero; lero, lero, bullinala."

On hearing these agreeable tidings, Teague's taste for strife is roused, and he sees visions of murdered men, and inherits, in idea, their confiscated property:—

" Ho! by Saint Tyburn it is the Talbot,
Lilliburlero, bullinala;
And he will cut the Englishman's throat,
Lilliburlero, bullinala.

Och, by my sowl, how the English do prate!
Lilliburlero, bullinala;
The laws on their side, and Christ knows what,
Lilliburlero, bullinala."

This reminds Pat that his church is kind to those who root out heresy, and that his holiness the successor of Saint Peter will probably protect all who reduce the number of heretics in our isles:—

" But if dispensation come from the pope,
Lilliburlero, bullinala,
We 'll hang Magna Charta and them in a rope,
Lilliburlero, bullinala.

For the good Talbot is now made a lord,
Lilliburlero, bullinala;
And with brave lads is coming aboard,
Lilliburlero, bullinala."

Teague then communicated other pleasing news;—all the people of France had sworn that the British throne should have no Protestant heir. To fulfil this, nothing was wanting but the presence of their new-made viceroy, whom they anxiously expected:—

" Arrah! but why does he stay behind?
Lilliburlero, bullinala;
Ho, by my sowl, 't is a Protestant wind,
Lilliburlero, bullinala."

But though the heretics, doomed to the devil in the belief of the Papists, got Satan, as prince of the air, to detain Talbot with an unfavourable wind, his fortune and piety triumphed over all obstacles; and Teague and Pat were enraptured at his arrival:—

" But see, the Tyrconnel is now come ashore,
Lilliburlero, bullinala;
And we shall have commissions galore,
Lilliburlero, bullinala.

And he that will not go to the mass,
Lilliburlero, bullinala,
Shall be turn'd out, and look like an ass,
Lilliburlero, bullinala."

Nor was this all: the ancient faith was to triumph, the Protestant faith to be trampled on; and Ireland, like a new-found emerald, was to be set in gold by native hands:—

" Now, now the heretics all go down,
Lilliburlero, bullinala;
By Christ and St. Patrick the nation's our own!
Lilliburlero, bullinala."

Here this famous ballad ends in some of the earlier copies; but Wharton, unwilling, it would seem, to conceal a personal fling against Tyrconnel and his master, caused it afterwards to be printed with (the addition of) these two caustic verses:—

" There was an old prophecy found in a bog,
Lilliburlero, bullinala,
Ireland shall be ruled by an ass and a dog,
Lilliburlero, bullinala.

And now is the prophecy come to pass,
Lilliburlero, bullinala;
For Talbot's the dog and James is the ass,
Lilliburlero, bullinala."

Burnet calls this ballad a foolish thing, and Percy pronounces it slight and superficial; but it accomplished changes of vast moment by merely speaking to the sentiments and passions of men, and touching cleverly and carelessly on their religious hopes and fears. Butler, with all his learning and boundless wit, was unable to bring the Presbyterians into the contempt which he desired; their experience in the Rebellion had sobered their zeal, and the heart-burnings of the reigns of

Charles and James had shown their patience as well as their charity; while their manly and independent sentiments in the cause of constitutional liberty raised them too high to be written down by even the wittiest of all lampooners.

The Stuarts, whether 'Lilliburlero' did the deed or not, were banished for ever, and a dynasty soon succeeded, sharing in the same blood, and professing the Protestant creed. But a love of the old line still lingered in the land: a liking—a sympathy for the direct descendants of the Plantagenets, the Bruces, the Tudors, and the Stuarts, was not at once to be extinguished by new theories of constitutional freedom and plans of regal succession, which removed the crown from what seemed to many the righteous wearer's head, and placed it on that of a stranger. It was long before the common people comprehended the delicate and balanced niceties of a machine which, moved by popular power, was to work for the welfare of all; and though one more ingenious than his fellows compared the glorious constitution of 1688, composed of royalty, aristocracy, and republicanism, to a minced pie compounded of discordant materials, but ingeniously blended by science and skill into harmony of parts, the simile was not satisfactory to those (and they were not few) who held that a son, in a matter of inheritance, should not be punished for the follies of the father. There were others to whose English ears the German of George I. was disagreeable; some who, discountenanced by the ascendant court, expected preferment from one of their own making; and not a few to whom any change which embroiled the nation would be acceptable, since in the confusion they might hope for plunder. These men and many more listened, with an eagerness which they lived to rue, to the persuasions of a young and courageous prince of the Stuart line, who suddenly landed in the isle, and with the standard of the family in his hand appeared, by the victories which he achieved, in a fair way of ascending the throne of his ancestors. But Derby was to Prince Charles what Moscow was, in after-years, to a far greater adventurer: his fortunes, from the first moment of retreat, declined; he was obliged, by treachery rather than by fear, to turn his back on the crown when it was almost in his grasp, and return to the Highland solitudes, where he was finally vanquished in the battle of Culloden.

The cruel executions which followed excited a deep and lasting sympathy even among the enemies of the rebels. When the sword of the Stuarts was broken, and their banner trampled in the dust, their adherents were dragged to the scaffold; and the axe, the halter, and the hangman's knife made short work. Hamlets and cottages were razed; young and old, man, woman, and child, were driven out to perish amid a desolation which had neither a reeking house nor a crowing cock in fifty miles' riding. Poetry, the soul of which is sensibility, pitied the sufferers, and poured a ballad-flood over the land, of admiration for Lochiel and Balmerino, and execration on the government and the Duke of Cumberland. The daring, the gallantry, and the chivalry of the one, were compared with the vengeance, the heartlessness, and cold-blooded butchery of the other; and though the songs which gave utterance to such sentiments were not permitted to be publicly sung, they were chanted in private; and the memory of those daring heroes, which would have died away like all other oral things, was consecrated in lasting verse, for many of these strains are of a high order of poetry.

As England suffered little in the contest, for the wave of war rolled but to Derby and back, we have few songs either of scorn or sympathy, on that subject, from her hand. The heart of Scotland was deeply touched: nor can it be said that her sympathy soon subsided. In the south the ballad of 'Jemmy Dawson,' from the hand of a distinguished poet, shows that even at the seat of government, in the shadow of St. James's Palace, the severities visited on the rebel chiefs were considered stern and cruel. "James Dawson," says Percy, "was one of the Manchester rebels, who was hanged, drawn, and quartered on Kennington Common, in the county of Surrey, July 30, 1746. This ballad is founded on a remarkable fact which was reported to have happened at his execution. It was written by the late William Shenstone, Esq., soon after the event, and has been printed among his posthumous poems." It wants something of the true ballad simplicity, and has more than the common ballad allowance of harmonious numbers and accurate rhymes.

"Come, listen to my mournful tale,
  Ye tender hearts and lovers dear;
Nor will you scorn to heave a sigh,
  Nor will you blush to shed a tear.

Young Dawson was a gallant youth,
  A brighter never trod the plain;
And well he loved one charming maid,
  And dearly was he loved again.

One tender maid she loved him dear,
  Of gentle blood the damsel came;
And faultless was her beauteous form,
  And spotless was her virgin fame."

Exordiums such as this generally introduce us to tragic misery in our old ballads; nor is it otherwise in that of Shenstone: he tells the story of these lovers' woes rather briefly. The sound of the Pretender's pipes and the persuasions of the "tender maid" prevailed with Dawson to accept a command in that small contingent of rebels which the Jacobites of the district raised in the cause of the Stuarts when Prince Charles arrived at Manchester. On the retreat of the rebels, Dawson was left with his men in the castle of Carlisle, not, as some say, with the hope of defending it, but from the unwillingness of the Englishmen to follow the now declining fortunes of the Pretender in the mountainous north. He surrendered to the cannon of the Duke of Cumberland after a short resistance, and was sent with other officers to be tried at London. All this Shenstone dismisses in the following way:—

"But curse on party's hateful strife,
  That led the faithful youth astray
The day the rebel clans appear'd;—
  Oh had he never seen that day!

Their colours and their sash he wore,
  And in the fatal dress was found;
And now he must that death endure
  Which gives the brave the keenest wound."

The sentence to be hanged, drawn, and quartered fell not on Dawson's ear alone. The lady of his love had followed him to London, and, it is said, turned deadly pale when she heard it, and exclaimed, "We will never part—we will never part!" She then, when the first shock was over, thought of royal mercy.

"Yet might sweet mercy find a place,
  And bring relief to Jemmy's woes,
O George, without a prayer to thee
  My orisons should never close:

The gracious prince that gives him life
  Would crown a never-dying flame;
And every tender babe I bore
  Should learn to lisp the giver's name."

It was more in the royal power than in the royal nature of those days to do deeds of mercy: the occupant of the throne was so effectually frightened by the boldness and first success of the rebels, that his fears would not permit him to spare any, and none of any note were spared. We are not told that this Lancashire maiden made her way to the palace, and suffered a repulse in her prayer for mercy: we only know that her lover was ordered for execution, and that she called her mourning-coach and followed him.

"She follow'd him, prepared to view
  The terrible behests of law;
And the last scene of Jemmy's woes
  With calm and steadfast eye she saw.

Distorted was that blooming face
  Which she had fondly loved so long,
And stifled was that tuneful breast
  Which in her praise had sweetly sung."

To understand the full meaning of the three verses which follow, it will be necessary to say that the rebels were hanged for five minutes by the neck, and then cut down; that the humbler sort, instead of being beheaded when the suspension was over, were cast on their backs, their bosoms cut open by the hangman's knife, their hearts plucked out, held up for a moment to the gaze of the spectators, and then thrown into a fire which was kept burning on the scaffold. We were told in our youth, by an old lady who, when a girl, was present at the execution of some of the rebels at Carlisle, that most of them (all fine young men) were not half dead when cut down, and one of them actually struggled with the wretch who opened his bosom to pluck out his heart. The scene, she said, haunted her fancy for half a century, and she never reflected on it without a shudder. The ballad proceeds:—

"And sever'd was that beauteous neck
Round which her arms had fondly closed,
And mangled was that beauteous breast
On which her love-sick head reposed;

And ravish'd was that constant heart
She did to every heart prefer;
For though it could his king forget,
'T was true and loyal still to her.

Amid those unrelenting flames
She bore this constant heart to see;
But when 't was moulder'd into dust,
'Now, now,' she cried, 'I 'll follow thee.'"

These words, though in smooth verse, very feebly depict the dreadful scene on which the gentle dames of London looked, it is said, with little emotion. One lady gazed on it with deeper feeling: when this bloody tragedy was finished, the poor miserable maid of the mourning-coach sobbed out,

"My death, my death alone can show
The pure and lasting love I bore;
Accept, O Heaven! of woes like ours,
And let us, let us weep no more.

The dismal scene was o'er and past,
The lover's mournful hearse retired;
The maid drew back her languid head,
And, sighing forth his name, expired."

Such was the end of poor Jemmy Dawson and his ladye-love. Most of the northern counties of England have the like sad tales to tell, and the like sad songs to sing, of erring loyalty and mourning beauty. A great and salutary change since those days has come over the tastes as well as opinions of men: beheading, hanging, and tearing traitors' bosoms open, were once pleasing to the people. Such being the state of public taste and feeling, we need not wonder that the heads of the rebel lords who suffered for the "Forty-five" were regarded, when stuck on the spikes of Temple Bar, as matters not only to be endured by the citizens, but as things in no small degree ornamental. There, at all events, the ghastly heads stood till time showed them the mercy which men refused, and silently dissolved them down with summer suns and winter rains, till they dropped, fragment after fragment, from that bad eminence, and were silently shovelled by the scavengers into the Thames. We remember an old lady telling us that when the heads were there she never walked through Temple Bar without a shudder; and in particular one stormy day, as she passed, the wind rocked them so and whistled through their eye-holes with such a tone as gathered crowds to look and listen: she was much agitated, she said, and quite ashamed of her weakness; "but then," she added, "I am a Westmoreland woman, and did not know any better!"

Before the days of the Rebellion, the empire of the ballad-makers was on the decline. Men, as they obtained more freedom, and as the press prospered, began to express their sentiments in plain prose; newspapers took to recording all provincial events; Downing Street published its gazettes-extraordinary; and the minstrel's occupation, like Othello's, was gone.

Saint George and the Dragon.

The ballads which we have thus introduced to the reader are in two senses *historical*—that is, they either have reference to historical events, or they are representations of real manners. But there are ballads which belong to that fabulous period which appears to precede the history of every nation; which, however, are probably based upon some actual circumstances which have passed into the traditions of the people, and become their favourite legends, dealing as they do with the extravagant and supernatural. Of this character are the ballads relating to the patron saint of England.

In the ballads of 'The Birth of St. George,' and 'St. George and the Dragon,' we read in brief the history of the patron of arms, of chivalry, and the Garter; a knight whom Campbell irreverently calls a swindler and a cut-throat; but then the poet took the saint for a native of Cilicia, whereas he was born in Coventry, if there be truth in ballad and legend. Those who desire to see a popular representation of one of his greatest deeds need only walk to the nearest village, where they will find the fiery knight on a fiery steed, thrusting his spear down the throat of a fiery dragon, underneath which is quaintly written "Entertainment for Man and Horse!" or those who wish to see the deed more brightly emblazoned will find pendent in gold and jewels, from the collar of British Majesty, a Christian hero in spiritual armour, vanquishing that old Dragon the Devil. We might further insist on the popularity of our patron saint by referring to history, and enumerating the times that heroes invoked his help, and kings swore by his name, when a great deed was to be dared or a field in France stricken; but it is superfluous.

"Listen, my lords," says the minstrel, "for I sing the wondrous birth of St. George, who rid the earth of monsters in honour of the Christian faith." We cannot however afford room for the poetic fancies of the author, who, it must be owned, is rather affluent in words; but content ourselves with saying, in humbler style, that the father of St. George was Lord Albert of Coventry, and his mother a lady as pious as she was beautiful. Now it happened that the lady dreamed a fearful dream: she thought she had conceived a dragon, and was so troubled that she shed tears night and day. she lost her rest: she lost her gaiety and her good looks, and at last she informed her husband. "Be comforted," he said; "I know who will tell me the meaning of this frightful dream;" and, mounting his horse, he rode through "lonely shades and thickets rough," to the dwelling of a noted sorceress. This weird lady had a wild abode:—

"Beneath a pendent craggy cliff,
All vaulted like a grave,
And opening in the solid rock,
He found the enchanted cave.

An iron gate closed up the mouth,
All hideous and forlorn,
Where, fastened by a silver chain,
There hung a brazen horn."

Lord Albert signed the sign of the cross, prayed a brief prayer, and blew the horn so loud that all the rocks rung. The sorceress did not appear, but at each blast of the horn a deep and hollow sound replied from the cavern; at last it took the shape of words:—

"Sir knight, thy lady bears a son,
Who, like a dragon bright,
Shall prove most dreadful to his foes,
And terrible in fight.

His name, advanced in future times,
On banners shall be worn;
But lo! thy lady's life must pass
Before he can be born."

When he heard this Lord Albert was overcome with grief: he sat for a long while; then turned his bridle homewards, and rode slow and sorrowing through the gloomy woods till he reached his own castle. All was dark and silent, and the gates were hung with black: his servants seemed unwilling to speak;

at last he was told that as soon as he had departed his lady was taken in labour; and, on consulting a skilful leech, was informed that both mother and babe could not be saved; to which she replied, "Save the babe, and commend me to my lord," and expired, but not before she had brought forth a son. Lord Albert beat his breast and tore his hair, and then said, "Let me see the boy who cost my dear lady her life." The menials answered with tears and with trembling :—

"Fair as the sweetest flower of spring,
Such was his infant mien;
And on his little body stamp'd
Three wondrous marks were seen.

A blood-red cross was on his arm,
A dragon on his breast,
And a broad garter, all of gold,
Was round his leg express'd."

Attention was shown to him, too, worthy of his beauty: three careful nurses were provided; one to give him suck, one to give him food, and one to lull him to sleep :—

"But lo! all in the dead of night
We heard a fearful sound;
Loud thunder clapp'd, the castle shook,
And lightning flash'd around.

Dead with affright at first we lay,
But, rousing up anon,
We ran to see our little lord—
Our little lord was gone.

But how, or where, we could not tell,
For, lying on the ground,
In deep and magic slumbers laid,
The nurses three were found."

On this Lord Albert fell into a swoon and lay long lifeless: he recovered only to a deeper sense of his misfortunes: he put on a palmer's gown, wandered into distant lands "till his locks were white as wool and his beard like the down of the thistle;" nor was he aware, when he died, that the sorceress whom he consulted had stolen his son, and trained him up to the use of arms and to deeds of chivalry.

The next ballad, 'St. George and the Dragon,' shows how well that scarcely Christian dame had acquitted herself in a task generally left to the rougher sex. "Let others sing," says our ballad-maker, "of the deeds of Hector and the grief of Helen; I will sing the deeds of St. George, an English knight, who slew many Saracens and many giants in honour of Christianity, and at last found himself in the land of Egypt, and at an interesting moment :—

"For as the story plain doth tell,
Within that country there did rest
A dreadful dragon, fierce and fell,
Whereby they were full sore oppress'd;
Who by his poisonous breath each day
Did many of the city slay."

Now this Egyptian Dragon had a taste of its own: men it swallowed by the dozen; but it loved most to try its teeth on the softer sex, and at last grew so dainty of stomach, that it would touch no other food. When the wise men of Egypt saw this, they went in a body to the monster, told him he would soon depopulate the land if he ate ladies at that rate, and proposed to compound the matter by allowing him a virgin per day: the Dragon for once was reasonable, and proceeded to take his tithe daily and duly. When St. George reached Egypt, the Dragon had eaten up all its virgins, save the king's only daughter Sabra, and she was stripped and tied to a stake, awaiting the coming of the devourer. She heard the prancing of a horse, and beheld the fated knight, who stopped and inquired what this sad sight meant :—

"For seeing there a lady bright
So rudely tied unto a stake,
As well became a valiant knight,
He straight to her his way did take.
Tell me, sweet maiden, then, quoth he,
What caitiff thus abuseth thee?
And lo! by Christ his cross I vow,
Which here is figured on my breast,
I will revenge it on his brow,
And break my lance upon his chest:
And speaking thus whereas he stood,
The dragon issued from the wood."

"There is the fiend!" exclaimed the princess, pointing to the approaching dragon, "who will soon make an end of me." The dragon was a fiery one: his breath was literally flame; his teeth were large and sharp; his claws as keen as sickles; and his tail could whisk a hundred men to the ground.

"St. George, on looking round about,
The fiery dragon soon espied,
And, like a knight of courage stout,
Against him he did fiercely ride;
And with such blows he did him greet,
He fell beneath his horse's feet.

For, with his lance that was so strong,
As he came gaping in his face,
In at his mouth he thrust along,
For he could pierce no other place;
And thus within that lady's view
This mighty dragon straight he slew."

To slay a dragon, save a princess, and deliver a kingdom, were deeds that could only be repaid by ingratitude. The knight was young and handsome; the Princess Sabra could not look without tenderness on one who had thus preserved her; so they fell in love with each other, had interviews, the sweeter from being stolen, and made vows which were not the less binding though there were no witnesses. A king of Morocco happened one day to overhear the lovers vowing eternal fidelity as they walked in the royal orchard: he told the king; his majesty rose in wrath, and resolved to take personal vengeance; but, on reflection that the arm which slew the Dragon was strong, he took to his Egyptian wiles, and so dealt with the hero that he departed on a pretended mission to Persia, carrying letters of instruction to the Sophy to slay him as soon as he reached the court. On his way to Bagdad the Christian champion zealously destroyed all Pagan idols: when overpowered and thrown into a dungeon, he dug his way out, and, though half dead with hunger, slew three warriors who were sent to retake him, then mounted one of the Sophy's best horses, and turned his bridle towards Europe :—

"Towards Christendom he made his flight,
But met a giant by the way,
With whom in combat he did fight
Most valiantly a summer's day;
Who, yet, for all his club of steel,
Was forced the sting of death to feel.

Back o'er the seas with many bands
Of warlike soldiers soon he pass'd,
Vowing upon those heathen lands
To work revenge; which at the last,
Ere thrice three years were gone and spent,
He wrought unto his heart's content."

He ravaged Persia, subdued but spared Egypt, slew the telltale king of Morocco, and, remembering his vows to the Princess Sabra, resolved to carry her to England and make her his wife. On his way home through a wild forest he began to wish for some satisfactory proof of the purity of the princess; but, seeing that she was faint and hungry, he went into the wood to kill a deer, leaving her under the protection of a single eunuch. On his return he was alarmed to see two enormous lions, who, after snapping up the eunuch, had laid themselves down at Sabra's feet, as if in defiance of all who dared to doubt her virgin truth. Though they respected the princess, they attacked her lover furiously; but he vanquished them. He brought his bride across the seas, hung out his pennon from his castle of Coventry, proclaimed himself the patron of the brave, the pious, and the chaste, and lived to see his name a motto for his country's flag, and her watchword on the field of honour—"St. George for England!"

It was not likely that ballads such as these could escape ridicule in days when much that was serious and sober called down satire and sarcasm; the romances gave birth to 'Don Quixote,' and the ballad of 'St. George and the Dragon' occasioned the ballad of 'The Dragon of Wantley,' and the still wittier one of 'St. George for England.' Both have a levity of expression, yet a certain gravity of narrative, which heightens the humour and increases the ludicrous.

The author of 'The Dragon of Wantley' enters on his subject at once. "We are told," says he, "how Hercules slew a dragon at Lerna with seven heads and twice as many eyes; but he had a club, whereas More of More-hall, with nothing at all in his hand, slew the dreadful Dragon of Wantley." This monster had a sting in his tail, long claws, a skin as tough as the hide of a rhinoceros, four-and-forty teeth of iron: he ate cattle—nay, swallowed a church all to the foundation-stone, which his iron teeth could not crack. The den where he lodged was within three miles of Rotherham.

"Some say this dragon was a witch,
Some say he was a devil,
For from his nose a smoke arose,
And with it burning snivel,
Which he cast off, when he did cough,
In a well that he did stand by,
Which made it look just like a brook
Running with burning brandy."

This fierce monster having eaten many of the children round Rotherham, the women and men began to think their turn would come next, and looked about for a champion, who, like a second St. George, might deliver them from its jaws. They soon found the man they wanted. More of More-hall lived in the neighbourhood: he was expert in all manly exercises, for he could wrestle, play at quarter-staff, kick, cuff, and huff, call hard names—nay, he had been known to seize a horse by the tail, and swing him round in the air till he died: and it was said by some that he ate him all up, save the shoes. To this worthy the people ran in a crowd, crying,

"O, save us all, More of More-hall,
Thou peerless knight of the woods;
Do but slay this dragon, who won't leave us a rag on,
We'll give thee all our goods.

Tut, tut, quoth he, no goods I want,
But I want, I want, in sooth,
A maid of sixteen that's brisk and keen,
With smiles about the mouth;
Hair black as sloe, skin white as snow,
With blushes her cheeks adorning,
To anoint me o'er night, ere I go to fight,
And to dress me in the morning."

This being settled, More of More-hall bespoke a new kind of armour at Sheffield, with spikes of steel projecting all around: he put it on, and, advancing against the Dragon with his fierce looks and his bristling mail, alarmed all the cows and cats and dogs in the district, who mistook him for a strange hedgehog. The champion was no whit dismayed; yet, when he saw the people of Rotherham betake them to housetops and trees, he drank six pots of ale and a quart of aqua-vitæ, for he knew the combat would be long and perilous. Adding cunning to courage, he crept into a well, and when the Dragon, not aware of his enemy, stooped down to drink, More of More-hall started up, cried "Boh!" and gave him a blow on the mouth. "A murrain on thee!" said the Dragon, "thou disturbest me in my drink;" and, turning quickly round, diffused a smell so offensive to the knight, that he exclaimed, "Beshrew thee, foul monster, thy airs are so unsavoury that thy diet must be unwholesome." This malaria forced the champion from his ambush:—

"Our politic knight on the other side
Crept out upon the brink,
And gave the Dragon such a douse,
He knew not what to think.
By cock, quoth he, say you so, d'ye see?
And then at him let fly
With hand and foot, and so they went to 't,
And the word was, Hey, boys, hey!"

The combat lasted two days and a night, and so well was the battle balanced, that neither was wounded: at length the Dragon gave his adversary a hard knock, and seizing him tried to toss him over his head; but More of More-hall with his spiked foot gave his enemy such a kick in a tender part as finished the fight:—

"Oh, quoth the Dragon, with a deep sigh,
And turn'd six times together,
Sobbing and tearing, cursing and swearing,
Out of his throat of leather:
More of More-hall! O, thou rascal!
Would I had seen thee never!
With the thing at thy foot thou hast prick'd my gut,
And I am undone for ever."

This strange burlesque ballad has been explained to mean a lawsuit respecting a claim of tithes made by the Wortleys on the lands of Penistone, near Rotherham. That it is a personal lampoon there can be as little doubt as that 'St. George for England' was composed for the St. George's Club of Oxford, in 1688, by John Grubb, a scholar of Christchurch, as a mirthsome sally to show his learning and wit, and he has shown both.

SONGS OF THE CIVIL WAR.

We have said "there are no ballads of the great civil war," meaning none composed at the period. The strong feelings of the contending parties might, however, naturally be expressed in the ballad poem; and there are two ballads of this character written some sixteen years ago by a gentleman who has since occupied a distinguished position in public life. These we give entire.

I.—The Cavalier's March to London.

"To horse! to horse! brave Cavaliers!
To horse for Church and Crown!
Strike, strike your tents! snatch up your spears!
And ho for London town!
The imperial harlot, doom'd a prey
To our avenging fires,
Sends up the voice of her dismay
From all her hundred spires.

The Strand resounds with maiden's shrieks,
The 'Change with merchants' sighs,
And blushes stand on brazen cheeks,
And tears in iron eyes;
And, pale with fasting and with fright,
Each Puritan Committee
Hath summon'd forth to prayer and fight
The Roundheads of the City.

And soon shall London's sentries hear
The thunder of our drum;
And London's dames, in wilder fear,
Shall cry, Alack! they come!
Fling the fascines;—tear up the spikes;
And forward, one and all.
Down, down with all their trainband pikes,
Down with their mud-built wall.

Quarter?—Foul fall your whining noise,
Ye recreant spawn of fraud!
No quarter! Think on Strafford, boys.
No quarter! Think on Laud.
What ho! The craven slaves retire.
On! Trample them to mud.
No quarter!—Charge.—No quarter!—Fire.
No quarter!—Blood!—Blood!—Blood!—

Where next? In sooth there lacks no witch,
Brave lads, to tell us where,
Sure London's sons be passing rich,
Her daughters wondrous fair:
And let that dastard be the theme
Of many a board's derision,
Who quails for sermon, cuff, or scream
Of any sweet precisian.

Their lean divines, of solemn brow,
Sworn foes to throne and steeple,
From an unwonted pulpit now
Shall edify the people:

Till the tired hangman, in despair,
Shall curse his blunted shears,
And vainly pinch, and scrape, and tear,
Around their leathern ears.

We'll hang, above his own Guildhall,
The city's grave Recorder;
And on the den of thieves we'll fall,
Though Pym should speak to order.
In vain the lank-hair'd gang shall try
To cheat our martial law;
In vain shall Lenthal trembling cry
That strangers must withdraw.

Of bench and woolsack, tub and chair,
We'll build a glorious pyre,
And tons of rebel parchment there
Shall crackle in the fire.
With them shall perish, cheek by jowl,
Petition, psalm, and libel,
The Colonel's canting muster-roll,
The Chaplain's dog-ear'd bible.

We'll tread a measure round the blaze
Where England's pest expires,
And lead along the dance's maze
The beauties of the friars:
Then smiles in every face shall shine,
And joy in every soul.
Bring forth, bring forth the oldest wine,
And crown the largest bowl.

And as with nod and laugh ye sip
The goblet's rich carnation,
Whose bursting bubbles seem to tip
The wink of invitation;
Drink to those names,—those glorious names,—
Those names no time shall sever,—
Drink, in a draught as deep as Thames,
Our Church and King for ever!

T. M.

II.—THE BATTLE OF NASEBY, BY OBADIAH BIND-THEIR-KINGS-IN-CHAINS-AND-THEIR-NOBLES-WITH-LINKS-OF-IRON, SERJEANT IN IRETON'S REGIMENT.

Oh! wherefore come ye forth in triumph from the North,
With your hands, and your feet, and your raiment all red?
And wherefore doth your rout send forth a joyous shout?
And whence be the grapes of the wine-press which ye tread?

Oh evil was the root, and bitter was the fruit,
And crimson was the juice of the vintage that we trod;
For we trampled on the throng of the haughty and the strong,
Who sate in the high places and slew the saints of God.

It was about the noon of a glorious day of June
That we saw their banners dance and their cuirasses shine,
And the Man of Blood was there, with his long essenced hair,
And Astley and Sir Marmaduke, and Rupert of the Rhine.

Like a servant of the Lord, with his Bible and his sword,
The General rode along us to form us for the fight,
When a murmuring sound broke out, and swell'd into a shout,
Among the godless horsemen upon the tyrant's right.

And hark! like the roar of the billows on the shore,
The cry of battle rises along their charging line!
For God! for the Cause! for the Church! for the Laws!
For Charles King of England, and Rupert of the Rhine!

The furious German comes, with his clarions and his drums,
His bravoes of Alsatia and pages of Whitehall;
They are bursting on our flanks. Grasp your pikes:—Close your ranks:—
For Rupert never comes but to conquer or to fall.

They are here:—they rush on.—We are broken:—we are gone:—
Our left is borne before them like stubble on the blast.
O Lord, put forth thy might! O Lord, defend the right!
Stand back to back, in God's name, and fight it to the last.

Stout Skippon hath a wound:—the centre hath given ground:—
Hark! hark!—What means the trampling of horsemen on our rear?
Whose banner do I see, boys? 'Tis he, thank God, 'tis he, boys.
Bear up another minute. Brave Oliver is here.

Their heads all stooping low, their points all in a row,
Like a whirlwind on the trees, like a deluge on the dykes,
Our cuirassiers have burst on the ranks of the Accurst,
And at a shock have scattered the forest of his pikes.

Fast, fast, the gallants ride, in some safe nook to hide
Their coward heads predestined to rot on Temple-Bar,
And he—he turns, he flies,—shame to those cruel eyes
That bore to look on torture, and dare not look on war!

Ho! comrades, scour the plain: and, ere ye strip the slain,
First give another stab to make your guest secure;
Then shake from sleeves and pockets their broad-pieces and lockets,
The tokens of the wanton, the plunder of the poor.

Fools, your doublets shone with gold, and your hearts were gay and bold,
When ye kiss'd your lily hands to your lemans to-day:
And to-morrow shall the fox, from her chambers in the rocks,
Lead forth her tawny cubs to howl above the prey.

Where be your tongues that late mock'd at heaven and hell and fate,
And the fingers that once were so busy with your blades,
Your perfum'd satin clothes, your catches and your oaths,
Your stage-plays and your sonnets, your diamonds and your spades?

Down, down, for ever down with the mitre and the crown,
With the Belial of the court, and the Mammon of the Pope;
There is woe in Oxford Halls: there is wail in Durham's Stalls:
The Jesuit smites his bosom: the Bishop rends his cope.

And She of the seven hills shall mourn her children's ills,
And tremble when she thinks on the edge of England's sword;
And the Kings of earth, in fear, shall shudder when they hear
What the hand of God hath wrought for the Houses and the Word.

T. M.

THE OLD ENGLISH BALLADS.

BY ALLAN CUNNINGHAM.

I.—ROBIN HOOD BALLADS.

"A famous man was Robin Hood,
The English ballad-singer's joy."—Wordsworth.

The ballads devoted to the exploits of Robin Hood and his bold company of outlaws are amongst the most popular of these interesting remembrances of the past. They breathe of the inflexible heart and honest joyousness of old England; there is more of the national character in them than in all the songs of classic bards or the theories of ingenious philosophers. They are numerous too, and fill two handsome volumes. Though Ritson, an editor ridiculously minute and scrupulous, admitted but eight-and-twenty into his edition, the number might be extended, for the songs in honour of bold Robin were for centuries popular all over the isle, and were they now out of print might be restored, and with additions, from the recitation of thousands, north as well as south. Though modified in their language during their oral transmission from the days of King John till the printing-press took them up, they are in sense and substance undoubtedly ancient. They are the work too of sundry hands: some have a Scottish tone, others taste of the English border; but the chief and most valuable portion belongs to Nottinghamshire, Lancashire, Derbyshire, and Yorkshire; and all—and this includes those with a Scottish sound—are in a true and hearty English taste and spirit.

A few of these ballads are probably the work of some joyous yeoman who loved to range the green woods and enjoy the liberty and licence which they afforded; but we are inclined to regard them chiefly as the production of the rural ballad-maker, a sort of inferior minstrel, who to the hinds and husbandmen was both bard and historian, and cheered their firesides with rude rhymes and ruder legends in which the district heroes and the romantic stories of the peasantry were introduced with such embellishments as the taste of the writer considered acceptable. These ballads, graphic as they are, will by some be pronounced rude: we must admit too that they are often inharmonious and deficient in that sequence of sound which critics in these our latter days desire: but the eye, in the times when they were composed, was not called, as now, to the judgment-seat; and the ear—for music accompanied without overpowering the words—was satisfied with anything like similarity of sounds. The ballad-maker therefore was little solicitous about the flow of his words, the harmony of balanced quantities, or the clink of his rhymes. His compositions, delighting as they did our ancestors, sound rough and harsh in the educated ear of our own times, for our taste is delicate in matters of smoothness and melody. They are however full of incident and of human character; they reflect the manners and feelings of remote times; they delineate much that the painter has not touched and the historian forgotten; they express, but without acrimony, a sense of public injury or of private wrong; nay, they sometimes venture into the regions of fancy, and give pictures in the spirit of romance. A hearty relish for fighting and fun; a scorn of all that is skulking and cowardly; a love of whatever is free and manly and warm-hearted; a hatred of all oppressors, clerical and lay; and a sympathy for those who loved a merry joke, either practical or spoken, distinguish the ballads of Robin Hood.

The personal character as well as history of the bold outlaw is stamped on every verse. Against luxurious bishops and tyrannic sheriffs his bow was ever bent and his arrow on the string; he attacked and robbed, and sometimes slew, the latter without either compunction or remorse; in his more humoursome moods he contented himself with enticing them in the guise of a butcher or a potter, with the hope of a good bargain, into the green wood, where he first made merry and then fleeced them, making them dance to such music as his forest afforded, or join with Friar Tuck in hypocritical thanksgiving for the justice and mercy they had experienced. Robin's eye brightened and his language grew poetical when he was aware of the approach of some swollen pluralist—a Dean of Carlisle or an Abbot of St. Mary's—with sumpter-horses carrying tithes and dining-plate, and a slender train of attendants. He would meet him with graciousness and humility; thank our Lady for having sent a man at once holy and rich into her servant's sylvan diocese; inquire too about the weight of his purse, as if desirous to augment it; but woe to the victim who, with gold in his pocket, set up a plea of poverty. "Kneel, holy man," Robin would then say, "kneel, and beg of the saint who rules thy abbey-stede to send money for thy present wants;" and as the request was urged by quarter-staff and sword, the prayer was a useful one, while the gold which a search in the prelate's mails discovered was facetiously ascribed to the efficacy of his intercession with his patron saint, and gravely parted between the divine and the robber.

Robin Hood differed from all other patriots—for patriot he was—of whom we read in tale or history. Wallace, to whom he has been compared, was a high-souled man of a sterner stamp, who loved better to see tyrants die than gain all the gold the world had to give; and Rob Roy, to whom the poet of Rydal Mount has likened the outlaw of Sherwood, had little of the merry humour and romantic courtesy of bold Robin. This seems to have arisen more from the nature than the birth of the man; he was no lover of blood, nay he delighted in sparing those who sought his life when they fell into his power; and he was beyond all example, even of knighthood, tender and thoughtful about women; even when he prayed he preferred our Lady to all the other saints in the calendar. Next to the ladies he loved the yeomanry of England; he molested no hind at the plough, no thresher in the barn, no shepherd with his flocks; he was the friend and protector of husbandman and hind, and woe to the priest who fleeced, or the noble that oppressed them. The widow too and the fatherless he looked upon as under his care, and wheresoever he went some old woman was ready to do him a kindness for a saved son or a rescued husband.

The personal strength of the outlaw was not equal to his activity; but his wit so far excelled his might that he never found use for the strength which he had—so well did he form his plans and work out all his stratagems. If his chief delight was to meet with a fierce sheriff or a purse-proud priest "all under the greenwood tree," his next was to encounter some burly groom who refused to give place to the king of the forest, and was ready to make good his right of way with cudgel or sword: the tinker who, with his crab-tree staff, "made Robin's sword cry twang," was a fellow of their stamp. With such companions he recruited his bands when death or desertion thinned them, and it seemed that to be qualified for his service it was necessary to excel him at the use of the sword or the quarter-staff; his skill in the bow was not so easily approached. He was a man too of winning manners and captivating address, for his eloquence, united with his woodland cheer, sometimes prevailed on the very men who sought his life to assume his livery and try the pleasures which Barnesdale or Plompton afforded.

The high blood of Robin seems to have been doubted by Sir Walter Scott, who, in the character of Locksley, makes the traditionary Earl of Huntingdon but a better sort of rustic, with manners rather of a franklin than a noble. Popular belief is however too much even for the illustrious author of 'Ivanhoe,' and bold Robin will remain an earl while woods grow and waters run. He was born, it is believed, in Nottinghamshire in the year 1160, and during the reign of Henry II. In his youth he was extravagant and wild—dissipated part of his patrimony, and was juggled out of the remainder by the united powers of a sheriff and an abbot. This made him desperate; drove him to the woods, and in the extensive forests which reached from Nottingham over several counties he lived a free life with comrades whom his knowledge of character collected, and who soon learned to value a man who planned enterprises with judgment, and executed them with intrepidity and success. He soon became famous over the whole island, and with captains after his own heart, such as Little John, Will Scarlet, Friar Tuck, and Allan-a-Dale, he ranged at will through the woodlands, the terror alike of the wealthy and the tyrannic. Nay, tradition as well as ballad avers that a young lady of beauty, if not of rank, loved his good looks as well as his sylvan licence so much that she accompanied him in many of his expeditions.

"In these forests," says Ritson, "and with this company, he for many years reigned like an independent sovereign; at perpetual war with the King of England and all his subjects, with the exception however of the poor and the needy, or such as were desolate and oppressed, or stood in need of his protection." This wild life had for Robin charms of its own; it suited the taste of a high but irregular mind to brave all the constituted authorities in the great litigated rights of free forestry; the deer with which the woods swarmed afforded food for all who had the art to bend a bow; and a ruined tower, a shepherd's hut, a cavern, or a thicket,

"When leaves were sharp and long,"

gave such shelter as men who were not scrupulous about bed or toilet desired; while wealthy travellers or churchmen abounding in tithes supplied them, though reluctantly, with Lincoln green for doublets, and wine for their festivals. Into Robin's mode of life the poet Drayton, who might have been a striker of deer in his day, has entered with equal knowledge and spirit:—

"An hundred valiant men had this brave Robin Hood,
Still ready at his call, that bowmen were right good,
All clad in Lincoln-green, with caps of red and blue,
His fellows' winded horn not one of them but knew,
When setting to their lips their little bugles shrill,
The warbling echoes waked from every dale and hill.
Their baldricks set with studs, athwart their shoulders cast,
To which below their arms their sheafs were buckled fast;
A short sword at their belt, a buckler scarce a span,
Who struck below the knee, not counted was a man.
All made of Spanish yew, their bows were wondrous strong,
They not an arrow drew but was a cloth-yard long:
Of archery they had the very perfect craft,
With broad arrow, or butt, or prick, or roving shaft.
Their arrows finely paired for timber and for feather,
With birch and brazil pieced to fly in any weather;
And shot they with the round, the square, or forked pile,
They loose gave such a twang as might be heard a mile."

Nor was the poet unaware of the way in which Robin maintained all this bravery:—

"From wealthy abbots' chests and churls' abundant store
What oftentimes he took he shared amongst the poor;
No lordly bishop came in lusty Robin's way,
To him, before he went, but for his pass must pay."

In that wild way, and with no better means than his ready wit and his matchless archery, Robin baffled two royal invasions of Sherwood and Barnesdale, repelled with much effusion of blood half a score of incursions made by errant knights and armed sheriffs, and, unmoved by either the prayers or the thunders of the church, he reigned and ruled till age crept upon him, and illness, arising from his exposure to summer's heat and winter's cold, followed, and made him for the first time seek the aid of a leech. This was a fatal step: the lancet of his cousin, the Prioress of Kirkleys Nunnery, in Yorkshire, to whom he had recourse in his distress, freed both church and state from further alarm, by treacherously bleeding him to death. "Such," exclaims Ritson, more moved than common, "was the end of Robin Hood; a man who, in a barbarous age and under a complicated tyranny, displayed a spirit of freedom and independence which has endeared him to the common people, whose cause he maintained, and which, in spite of the malicious endeavours of pitiful monks, by whom history was consecrated to the crimes and follies of titled ruffians and sainted idiots, to suppress all record of his patriotic exertions and virtuous acts, will render his name immortal."

The personal character of Robin Hood stands high in the pages of both history and poetry. Fordun, a priest, extols his piety; Major pronounces him the most humane of robbers; and Camden, a more judicious authority, calls him the gentlest of thieves; while in the pages of the early drama he is drawn at heroic length, and with many of the best attributes of human nature. His life and deeds have not only supplied materials for the drama and the ballad, but proverbs have sprung from them: he stands the demigod of English archery, men used to swear both by his bow and his clemency; festivals were once annually held, and games of a sylvan kind celebrated in his honour, in Scotland as well as in England. The grave where he lies has still its pilgrims; the well out of which he drank still retains his name; and his bow and one of his broad arrows were within this century to be seen in Fountains Abbey, a place immortalised by his adventure with the Curtal Friar.

Having recalled to the recollection of our readers the leading features in the adventures and character of bold Robin, we shall proceed to describe and quote the more poetic or interesting portions of the ballads which record his actions, rather according to the narrative of his life than the order of composition. It is our purpose too to discard much of the antique spelling in which plain words are often disguised, and also to give in some places a less corrupt reading, which we are enabled to do, not so much from traditionary scraps or oral recitation, as from those numerous editions of the ballads which were once and are still diffused over the whole of England and the half of Scotland.

A Little Geste of Robin Hood.

The longest of all the ballads which bear the name of Robin Hood was first printed at the Sun in Fleet Street, by Wynken de Worde. It is called 'A Little Geste of Robin Hood,' but so ill informed was the printer in the outlaw's history, that he describes it as a story of King Edward, Robin Hood, and Little John. It is perhaps one of the oldest of these compositions.

The ballad begins somewhat in the minstrel manner—

"Come lithe and listen, gentlemen,
That be of freeborn blood,
I shall tell you of a good yeoman,
His name was Robin Hood.

Robin he was a proud outlaw
As ever walk'd on ground;
So courteous an outlaw as he was
Has never yet been found."

It then proceeds to relate how Robin stood in Barnesdale Wood, with all his companions beside him, and refused to go to dinner till he should find some bold baron or unasked guest, either clerical or lay, with wealth sufficient to furnish forth his table. On this, Little John, who seems always to have had a clear notion of the work in hand, inquired anxiously,—

> "Where shall we take, where shall we leave,
> Where shall we abide behind,
> Where shall we rob, where shall we reave,
> Where shall we beat and bind?
> There is no force, said bold Robin,
> Can well withstand us now;
> So look ye, do no husbandman harm
> That tilleth with his plough."

He gives similar directions about tenderly treating honest yeomen, and even knights and squires disposed to be good fellows; "but beat," said he, "and bind, bishops and archbishops; and be sure never to let the high-sheriff of Nottinghamshire out of your mind."—"Your words shall be our law," said Little John, "and you will forgive me in wishing for a wealthy customer soon,—I long for dinner." One, a knight with all the external marks of a golden prize, was first observed by Little John, approaching on horseback through one of the long green glades of Barnesdale Wood: the stranger is well drawn —

> "All dreary then was his semblaunt,
> And little was his pride;
> His one foot in the stirrup stood,
> The other waved beside.
> His hood hung over his two eyne;
> He rode in simple array,
> A sorrier man than he was one
> Rode never in summer's day."

"I greet you well," said Little John, "and welcome you to the greenwood; my master has refused to touch his dinner these three hours, expecting your arrival." "And who is your master," inquired the stranger, "that shows me so much courtesy?" "E'en Robin Hood," said the other meekly. "Ah, Robin Hood!" replied the stranger, "he is a good yeoman and true, and I accept his invitation." Little John, who never doubted but that the stranger was simulating sorrow and poverty, the better to hide his wealth, conducted him at once to the trysting-tree, where Robin received him with a kindly air and a cheerful countenance.

> "They wash'd together, and wiped both,
> And set till their dinere
> Of bread and wine they had enough,
> And nombles of the deere,
>
> Swans and pheasants they had full good,
> And fowls of the rivere;
> There failed never so little a bird
> That ever was bred on brere "

"I thank thee for thy dinner, Robin," said the knight, "and if thou ever comest my way I shall repay it." "I make no such exchanges, Sir Knight," said the outlaw, "nor do I ask any one for dinner. I vow to God, as it is against good manners for a yeoman to treat a knight, that you must pay for your entertainment." "I have no more in my coffer," said the other composedly, "save ten shillings," and he sighed as he said it. Robin signed to Little John, who dived into the stranger's luggage at once: he found but ten shillings, and said, "The knight has spoken truly." "I fear you have been a sorry steward of your inheritance, Sir Knight," said the outlaw; "ten shillings is but a poor sum to travel with " "It was my misfortune, not my fault, Robin," said the knight, "my only son fell into a quarrel,

> "And slew a knight of Lancashire,
> And a squire full bold,
> And all to save him in his right
> My goods are sett and sold.
>
> My lands are sett to wad, Robin,
> Until a certain day,
> To a rich abbot here beside
> Of Saint Mary's Abbeye."

"My lands," he continued, "are mortgaged for four hundred pounds; the abbot holds them: nor know I any friend who will help me—not one." Little John wept; Will Scarlett's eyes were moist; and Robin Hood, much affected, cried, "Fill us more wine: this story makes me sad too." The wine was poured out and drank, and Robin continued, "Hast thou no friend, Sir Knight, who would give security for the loan of four hundred pounds?" "None," sighed the other, "not one friend have I save the saints." Robin shook his head; "The saints are but middling security in matters of money: you must find better before I can help you."—

> "I have none other then, said the knight,
> The very sooth to say,
> Except that it be our dear Ladye,
> Who never fail'd me a day."

Robin at length accepted the Virgin's security, and bade Little John tell out four hundred pounds for the knight; and, as he was ill appareled, he desired him to give him three yards, and no more, of each colour of cloth for his use. John counted out the cash with the accuracy of a miser; but, as his heart was touched with the knight's misfortunes, he measured out the cloth even more than liberally: he called his bow an ell wand, and every time he applied it, he skipped, as the ballad avers, "footes three."

> "Scathlock he stood still and laugh'd,
> And swore by Mary's might,
> John may give him the better measure,
> For by Peter it cost him light.
>
> Give him a grey steed too, Robin, he said,
> Besides a saddle new,
> For he is our Ladye's messenger;
> God send that he prove true."

"Now," inquired the knight, "when shall my day of payment be?"—"If it so please you, sir," said Robin, "on this day twelvemonth, and the place shall be this good oak."—"So be it," answered the knight, and rode on his way.

The day of payment came, and Robin Hood and his chivalry sat below his trysting-oak: their conversation turned on the absent knight and on his spiritual security.

> "Go we to dinner, said Little John;
> Robin Hood, he said nay,
> For I dread our Ladye be wroth with me,
> She hath sent me not my pay
>
> Have no doubt, master, quoth Little John,
> Yet is not the sun at rest,
> For I dare say and safely swear
> The knight is true and trest."

The confidence of Little John was not misplaced, for while he took his bow and with Will Scarlett and Much the miller's son walked into the glades of Barnesdale Forest to await for the coming of baron or bishop with gold in their purses, the knight was on his way to the trysting-tree with the four hundred pounds in his pocket, and a noble present for the liberal outlaw. the present was in character:—

> "He purveyed him an hundred bows,
> The strings they were well dight;
> An hundred sheafs of arrows good,
> The heads burnish'd full bright.
>
> And every arrow was an ell long,
> With peacock plume y-dight,
> Y-nocked too all with white silver,
> It was a seemly sight."

The knight was, however, detained on the way by a small task of mercy, he came to a place where a horse, saddled and bridled, and a pipe of wine. were set up as the prizes at a public wrestling-match; and as they were won by a strange yeoman, the losers raised a tumult, and, but for the interference of the knight and the men who accompanied him, would have deprived the yeoman of his prizes and done him some personal harm. The Abbot, too, of Saint Mary's had raised difficulties the restoring of his lands and the receipt of the redemption money; and the sun was down, and the hour of payment stipulated with Robin expired, when the good knight arrived at the trysting-tree. Events in the mean while had happened which require notice.

As Little John with his two companions stood watch in the wood of Barnesdale, the former, who loved his dinner almost as well as he loved a fray, began not only to grow impatient, but to entertain doubts about the hour of payment being kept. He was now to be relieved from his anxiety:—

"For as they look'd in Barnesdale wood,
And by the wide highway,
Then they were aware of two black monks,
Each on a good palfraye.

Then up bespake he, Little John,
To Much he thus 'gan say,
By Mary, I'll lay my life to wad,
These monks have brought our pay."

To stop and seize two strong monks with fifty armed men at their back seemed a daring task for three outlaws: it was ventured on without hesitation.

"My brethren twain, said Little John,
We are no more but three;
But an we bring them not to dinner,
Full wroth will our master be.

Now bend your bows, said Little John,
Make all yon press to stand;
The foremost monk, his life and his death,
Is closed in my hand."

"Stand, churl monks," said the outlaws; "how dared you to be so long in coming, when our master is not only angry, but fasting?"—"Who is your master?" inquired the astonished monks. "Robin Hood," answered Little John. "I never heard good of him," exclaimed the monk; "he is a strong thief." He spoke his mind in an ill time for himself: one called him a false monk; another, it was Much, shot him dead with an arrow, and, slaying or dispersing the whole armed retinue of the travellers, the three outlaws seized the surviving monk and the sumpter-horses, and took them all to their master below the trysting-tree. Robin welcomed his dismayed guest, caused him to wash, and sitting down with him to dinner, and passing the wine, inquired who he was, and whence he came. "I am a monk, sir, as you see," was the reply, "and the cellarer of St. Mary's abbey." Robin bethought him on this of the knight and his security:—

"I have great marvel, then Robin Hood said,
And all this livelong day,
I dread our Ladye is wroth with me,
She hath sent me not my pay.

Have no doubt, master, said Little John,
Ye have no need, I say,
This monk hath got it, I dare will swear,
For he is of her abbaye."

"That is well said, John," answered Robin Hood. "Monk, you must know that our Lady stands security for four hundred pounds; the hour of payment is come; hast thou the money?" The monk swore roundly that he now heard of this for the first time, and that he had only twenty marks about him for travelling expenses. "We shall see that," said the outlaw: "I marvel that our Ladye should send her messenger so ill provided: go thou, Little John, and examine, and report truly."

"Little John spread his mantle down,
He had done the same before;
And he told out of the good monk's mails
Eight hundred pounds and more.

Little John let it lie full still,
And went to his master in haste;
Sir, he said, the monk is true enough,
Our Ladye hath doubled your cost.

I make mine avow to God, said Robyne;
Monk, what said I to thee?
Our Ladye is the truthfullest dame
That ever yet found I me.

I vow by Saint Paule, said Robin Hood then,
I have sought all England thorowe,
Yet found I never for punctual pay
Half so secure a borrowe."

Little John enjoyed this scene of profit and humour, and stood ready to fill the monk's cup when Robin ordered wine. "Monk, you are the best of monks," said the outlaw; "when you return to your abbey, greet our Lady well, and say she shall ever find me a friend; and for thyself, hark, in thine ear: a piece of silver and a dinner worthy of an abbot shall always be thine when you ride this way."—"To invite a man to dinner that you may beat and bind and rob him," replied the monk, "looks little like courtesy."—"It is our usual way, monk," answered Robin drily; "we leave little behind."

As the monk departed, the knight made his appearance; but Robin refused the four hundred pounds. "You were late in coming," he said, "and our Lady, who was your security, sent and paid it double." The knight looked strangely on the outlaw, and answered, "Had I not stayed to help a poor yeoman who was suffering wrong, I had kept my time."—"For that good deed, Sir Knight," said Robin Hood, "I hold you fully excused; and more, you will ever find me a friend."

ROBIN HOOD AND THE TANNER.

Arthur-a-Bland, the Tanner of Nottingham, was a wild unsettled lad, and loved the hide better when rough and warm on the bull's back, than in his own tan-pit, and in a fair way of becoming soles and uppers for boots and shoes. In his day there was no settled work for a tanner; husbandmen tanned the leather of their own shoes and horse-furniture in a way which science would scorn now, but tough withal and wearable, and this perhaps induced honest Arthur to think more of Barnesdale Wood and his cousin Little John than of toiling with raw hides in an unsavoury solution of oak-bark and ditch-water. In this unsettled state of mind, and with a reputation for a broil, he walked into the forest prepared alike for mischief or mirth, careless whether he met with a dun-deer or an armed outlaw. In colours suited to his character the old minstrel has sketched him:—

"In Nottingham there lives a jolly tanner,
His name is Arthur-a-Bland;
There's never a squire in Nottinghamshire
Dare bid bold Arthur stand.

With a long pike-staff on his shoulder,
So well he can clear his way;
By two and by three he makes them to flee,
For he hath no list to stay."

As he looked at the red-deer he chanced to meet Robin Hood, and, not knowing him, resolved to have some sport. "What makes you here so like a thief?" inquired the Tanner: "I am a keeper in this forest, and it is my duty to stay you."—"Hast any assistants, man?" inquired Robin; "it is not one man that stops me."—"Truly, friend," said the Tanner, "I have no better assistant than this good oak-graff, and it will do all I want."

"For thy sword and thy bow I care not a straw,
Nor all thine arrows to boot;
For an I get a knop at thy bare scap,
Thou canst as well spit as shoot.

Speak gently, good fellow, said jolly Robin,
And give better terms to me;
Else I'll thee correct for thy neglect,
In not speaking mannerly."

"Marry, guep with a wanion," exclaimed the Tanner; "I regard not thy big looks." Robin on this unbuckled his belt, laid aside his sword and bow, and, taking up a good quarter-staff of oak, said, "Let us measure staves, so that the play may be fair."—

"I care not for length, bold Arthur replied,
My staff is of oak so free;
Eight foot and a half, it will knock down a calf,
And I hope it will knock down thee.

"Then Robin Hood could no longer forbear,
But bestow'd on him such a knock,
That quickly and soon the blood came down
Before it was ten o'clock."

The Tanner accepted no such favours without some return, and gave the 'outlaw a blow that brought the blood trickling down every individual hair of his head. At the sight of his blood Robin's anger rose, and he struck lustily and well; but the Tanner laid on as if he were cleaving wood, and all Barnesdale rang with their blows. "Hold thy hand," cried Robin, "thou hast done enough: I make thee free of the wood."—"Why, Gad-a-mercy," answered the Tanner, "I may thank my staff, not thee, for that."—"Well, well, good fellow," continued the outlaw, "tell me, at any rate, thy name and trade."

"O, I am a tanner, bold Arthur replied,
In Nottingham long have I wrought;
An if thou 'lt come there, I vow and swear
I will tan thy hide for nought.

Gad-a-mercy, good fellow, said jolly Robin,
Since thou art so kind and free,
An if thou wilt tan my hide for nought,
I will do as much for thee."

During this pause in the strife they continued the conversation:—"I wish," said Robin, "that you would quit the tan-pits and live with me in the forest: as sure as my name is Robin Hood thou shalt not want gold and fee."—"Ah!" exclaimed Arthur-a-Bland, "if you are Robin Hood you can tell me where my kinsman Little John is; if I can find him we are not likely to part soon." A blast on the horn brought Arthur's relative, who was ready, as usual, to take up his master's quarrel.—

"But Robin Hood took them both by the hands,
And danced round the oak-tree;
'For three merry men, and three merry men,
And three merry men we be.'"

Sir Guy of Gisborne.

Robin's adventure with Sir Guy of Gisborne is tragical as well as humorous. that good knight (if knight he were—for he is sometimes called plain Guy) seems to have had as much of the bully as the soldier in him, and to have been persuaded by the Sheriff of Nottingham to undertake a task in which abler men had failed. He certainly had all the external marks of valour—a swashing and a martial outside; and when he entered the forest arrayed in his "capul-hide," and his sword in his hand, he marched as if to an assured conquest, nor doubted that he should either take Robin Hood or slay him. But the ready wit and invention of the outlaw were always near when bravery failed, and fortune seems to have delighted in affording him opportunities of showing the ascendency of his mind over his band. While Guy, in his capul-hide, made his way into the forest, Robin was fast asleep in a spot of much beauty:—

"When shaws were sheen and shrads full fair,
And leaves both large and long,
It is merry to walk in the fair forest,
And hear the small bird's song.

The wood-weele sang and would not cease,
Sitting upon the spray;
So loud, he awaken'd Robin Hood,
In the greenwood where he lay."

Up sprang Robin, and exclaimed, "I have had a dream: I dreamed that two strong yeomen overpowered me in fight, and beat me when they had bound me; if I meet two such I shall think of my dream."—"Ah!" said Little John, to whom these words were addressed, "those that mind freets, freets will follow, as Allan a-Dale says."—"I shall leave this place, nevertheless," said Robin; so they put on their green frocks, and, with their arrows at their backs, walked out among the deer—

"Until they came to the merry greenwood,
Where they had gladdest to be;
There they were aware of a wight yeoman,
That lean'd him against a tree.

A sword and a dagger he wore by his side,
Of many a man the bane;
And he was clad in his capul-hide,
Top, and tail, and mane."

High words now ensued between Little John and his master, for both would take the adventure of Sir Guy and his capul-hide, and the former set off in a huff to join his comrades, who were posted in the neighbourhood of Nottingham, while Robin Hood walked up to the stranger, and thus accosted him:—Thou shouldst be a good archer, if I may judge by thy bow."—"I have missed my way," said Sir Guy, not answering the question, "and have lost my morning's work."—"Good fellow," replied Robin, "let me be thy guide in the forest."

"I seek an outlaw, the stranger said,
Men call him Robin Hood;
I 'd rather meet him, that proud outlaw,
Than forty pound so good.

Now come with me, thou wight yeoman,
And Robin thou soon shalt see;
But first let us some pastime find
Under the greenwood tree."

On this they cut two long wands, and, placing them threescore roods asunder, prepared their bows to shoot. It was evidently Robin's object to prove the skill of this venturous stranger, who had entered his dominions bow in hand, as if challenging him to a trial in the art in which he excelled. Had Guy been a more skilful archer, it is likely that Robin, instead of the "awkward stroke" which he bestowed on him, would have endeavoured to enlist him in his band:—

"The first time Robin shot at the pricke,
He missed but an inch it fro;
The yeoman he was an archer good,
But he could never do so."

The second arrow of the stranger failed in its aim; that of Robin Hood cleft the wand:—

"A blessing upon thy heart, he said,
Good fellow, thy shooting is good;
For an thy heart be as good as thy hand,
Thou wert better than Robin Hood."

They were now approaching the debatable land. "Tell me thy name, for there is much skill in thy right hand," said the stranger. "No, by my faith," said the outlaw, "not till I know what thine is."

"I dwell by dale and down, quoth he,
And Robin to take I 'm sworn;
And when I am call'd by my right name,
I am Guy of good Gisborne.

My dwelling is in this wood, says Robin,
By thee I set right nought:
I am Robin Hood of Barnesdale,
Whom thou so long hast sought.

He that had neither been kith nor kin
Might have seen a full fair fight,
To see how together these yeomen went
With blades both brown and bright."

The combat was very fierce, for life or liberty was the prize they contended for. Robin stumbled on the root of a tree, and received a slight hurt in the side. "Ah, dear Lady," said he, addressing the Virgin, "let me not die before my time;" and on uttering this he felt strengthened, and, leaping to his feet, struck his antagonist dead at a blow. He then cut Sir Guy's head off, gashed it so that no one might know whose it was, and stuck it on the end of his bow: then stripping the body, and taking off his own mantle of Lincoln green, exclaimed, in the savage pleasantry of those times, "If thou hast had the worst strokes at my hand, thou shalt have the better cloth."

"Then Robin did off his gown of green,
And on Sir Guy did throw;
And he put on that capul-hide
That clad him top to toe.

Thy bow, thy arrows, and little horn,
  Now with me I will bear;
For I'll away to Barnesdale,
  To see how my men do fare."

While Robin was on his way in search of his men, it will be necessary to say that Little John, in an accidental encounter with the Sheriff of Nottingham, had been taken prisoner, and, with Will Scarlett, whom he had tried to rescue, was on the road to be hanged. Robin Hood was aware of this, however, when he set Guy's horn to his mouth and blew a blast, for it was heard by the Sheriff and his men as they conducted Little John to the gallows :—

"O hearken, hearken, the Sheriff he said,
  I hear now tidings good;
For yonder I hear Sir Guy's horn blow,
  And he hath slain Robin Hood.

Yonder I hear Sir Guy's horn blow,
  It blows so well in tide;
And yonder he comes, that wight yeoman,
  Clad in his capul-hide."

When the simulated Sir Guy came up, great was the rejoicing of the Sheriff, and liberal were his offers. "Ask what thou wilt," he cried, "and have it."—"I will none of thy gold, good sir," said Robin, speaking hollow out of the capul-hide hood; "but since I have slain the master, let me bestow a blow on his knave, Little John. I ask no better recompense."—"Thou art simply mad," answered the Sheriff: "thou hast done a feat worth a knight's fee; but since thou art pleased with little, why go and take it." When Little John heard his master's voice, he rejoiced and said, "Now I shall get loose, as sure as there are saints in heaven." His liberation was soon accomplished :—

"For Robin pull'd forth an Irish knife,
  And loosed John hand and foot,
And gave him Sir Guy's bow in his hand,
  And bade him arise and shoot.

Then John took Guy's bow into his hand,
  His bolts and arrows each one :
When the Sheriff saw Little John bend the bow,
  He ettled him to be gone."

The sight of those two terrible archers with their bows bent and their arrows in the string was enough for the Sheriff and his men: he fled towards Nottingham, but not so fast as to hinder Little John from despatching an arrow after him, which hindered him from sitting easily at dinner for some months after.

THE FRIAR OF FOUNTAIN'S DALE.

"A north-country mile and an inch at a shot" is a rhyming instance of the strength and skill of Robin Hood in archery; nor are proofs in prose wanting. "The abbot of Whitby," says a Yorkshire tradition, "had heard that Robin Hood and Little John were famous for the distance as well as the accuracy of their shooting, and begged them after dinner to give him an example. He took them to the top of the abbey, whence each of them shot an arrow, which fell not far from Whitby-laths, in memorial of which the abbot set up a pillar where each of the arrows was found. The place where Robin's arrow fell is still called Robin Hood's Field, and the place where Little John's fell is called John's Field; the distance of these places from Whitby Abbey exceeds a measured mile."

If this be admitted as prose evidence of the distance to which Robin's bow could send a shaft, for the matchless accuracy of his aim there are in verse many examples; his arrows, like the stones of the Benjamite slingers, flew to a hair's breadth and did not miss. Yet at this weapon he was once nigh overmatched; not indeed by human skill, but by the wondrous dogs of the Friar of Fountain's Dale, that caught the arrows in their mouths as they flew. It is to be feared that the breed of these dogs either became immediately extinct, or that they were trained by the skill, now lost, of a sorcerer. The adventure of the Friar and his curtal Dogs is a rustic romance: that martial monk, by a species of scholastic magic known to the vulgar by the name of the Oxford Art, educated his dogs in a new kind of warfare, and with his sword and bow reigned for seven years the sovereign of Fountain's Dale. He might have continued longer on his throne had not his merits provoked the hostility of his brother-monarch of Sherwood.

The ballad in which the Friar's contest with Robin is related is both well imagined and well rhymed. It happened one summer's morn, says this legend, that Little John performed a feat of archery much to the pleasure of his master :—

"Will Scarlett he did kill a buck,
  And Midge he kill'd a doe,
But Little John kill'd a hart of grease,
  Five hundred foot him fro.

Joy on that heart, said Robin Hood,
  Shot such a shot for me,
I'll ride my horse a hundred miles
  To find a match for thee."

There was perhaps some envy in the laugh which Will Scarlett raised at this. "I know," said he, "a curtal friar in Fountain's Abbey who can fight you both." Now, in those days there were martial monks whose duties consisted in preaching to the Saracens, or in cutting their throats; they were peculiar to Asia; yet something of the same sort of animal was not uncommon in this country. England had prelates who, like Anthony Beck, Bishop of Durham, loved to fight in the van; or, like Sinclair of Dunkeld, could draw the sword and lead to victory when his country was invaded. The same military taste descended lower; and the church had humbler servants of very questionable morality, like the curtal Friar. When Will Scarlett gave this insulting commendation to the Friar, he added—

"The curtal Fryar in Fountain's Abbey
  Well can a strong bow draw;
He will beat you and your good yeomen,
  If you set them all in a raw.

Then Robin he swore a solemn oath,
  And it was by Mary free,
That he would neither eat nor drink
  Till the Fryar he did see."

The outlaw put on his best steel harness and a helmet which had resisted many a stroke; he likewise belted a sword by his side, and with a buckler on his shoulder and his trusty bow in his hand away he went into Fountain's Dale to achieve this new adventure.

"And coming unto Fountain's Dale,
  No farther would he ride;
There he was aware of the curtal Fryar
  Close by the water-side.

The Fryar had on a harness good,
  On his head a cap of steel;
Broad-sword and buckler by his side,
  And they became him weel."

Robin stood a little while looking at the military monk. No man ever entered upon a combat with less consideration; it was ever word and blow with him; yet in the present case he saw the propriety of having a reason of some kind for rushing upon strife—a cause of offence was not long wanting.

"Robin Hood he lighted off his horse,
  And tied him to a thorn;
Carry me o'er the water, thou curtal Fryar,
  Or else thy life's forlorn.

The Fryar took Robin on his back,
  Deep water he did bestride,
And neither spoke word good or bad
  Till on the other side."

All as yet went smoothly; the Friar, with a meekness which he might have learned in Fountain's Abbey, obeyed the command of the imperious stranger, carried him over the stream, and placed him safely on the bank; but here his meekness and courtesy ended :—

"Lightly leapt Robin from off his back,
When the Fryar he said again,
Now carry me back, thou fine fellow,
Or faith it shall breed thee pain.

Robin took the Fryar upon his back,
Deep water he did bestride,
And neither spake good word or bad
Till he came to the other side."

This could not last long; it endured, however, on Robin's side longer than on the Friar's, who, desiring to bring the matter to an end, carried the outlaw to the middle of the stream, and, tossing him roughly in, told him either to sink or swim at his pleasure. Robin preferred swimming to sinking, and, reaching the bank, grasped his bow, and plucked out an arrow from his quiver:—

"One of his best shafts below his belt
At the Fryar he let fly,
The curtal Fryar with his steel buckler
Did put the arrow by.

Shoot on, shoot on, the Fryar he said,
Shoot on as thou hast begun;
If thou shootest here for a summer's day,
Thy mark I will not shun."

How many arrows the steel buckler of the Friar put aside the ballad neglects to say: four-and-twenty was the usual number of shafts in an archer's quiver of those days: at all events, Robin shot with his usual skill, but shot all his arrows away without injuring his invulnerable adversary. He then laid aside his bow, drew his sword, and, with his buckler on his arm, closed with the Friar, who opposed him with equal arms and equal resolution:—

"They fought from ten o'clock o' the day
Till four in the afternoon;
Then Robin Hood came to his knees,
Of the Fryar to beg a boon.

A boon, a boon, thou curtal Fryar,
I beg it on my knee;
Let me set my horn unto my mouth,
And to blow out blasts three.

That will I do, said the curtal Fryar,
Of thy blasts I have no doubt;
I hope thou'lt blow so passing well,
Till both thy eyes fly out."

It is probable that the Friar was not aware of the importance of the boon which he so readily granted; or it may be that he was prepared for all emergencies, and relied for assistance on his reserve of "great ban-dogs," as fit to match the force of all Robin's forest chivalry. Be that as it may, no sooner were the blasts blown than fifty yeomen with bent bows in their hands came hastening to the aid of their leader. "Whose men are these?" inquired the Friar. "They are mine," replied Robin.

"A boon, a boon, said the curtal Fryar,
The like I gave to thee,
To set my fist thus to my mouth,
And to whute out whutes three.

That will I do, said Robin Hood,
Or else I were to blame;
For three whutes in a fryar's fist
Will make me glad and fain."

Robin seems not to have been prepared for the four-footed opposition which "three whutes on the Fryar's fist" were destined to call up. No sooner had he whooted thrice than half a hundred great ban-dogs came running to his side; and the Friar proceeded to lay down rules for the coming combat:—

"Here is for every man a dog,
And I myself for thee;
Nay, by my faith, said Robin Hood,
Good Fryar, that must not be.

Two dogs at once to Robin did go,
One behind, the other before,
And Robin Hood's mantle of Lincoln green
Off from his back they tore."

This Robin may have expected; but for the scene which followed no previous experience could have prepared him; he had hitherto found nothing but steel to resist his shafts. His men turned their arrows at once on their four-footed adver-

"But whether his men shot east and west,
Or they shot north and south,
The curtal dogs, so taught they were,
Caught the arrows in their mouth."

Little John was less amazed at this than his master. "Take off thy dogs, Friar," he exclaimed, "else evil will befal both them and thee."—"Who art thou?" said the Friar, emboldened by the battle having hitherto gone in his favour; "whose man art thou that comes here to prate to me?"—"I am Little John, and Robin Hood is my master," replied he; and as he spoke he shot his arrows with such dexterity that half a score of the Friar's dogs fell dead, each by a single shaft. "Hold thy hand, good fellow," cried the Friar; "thy master and I shall agree; shoot no more, I pray thee."

"This curtal Fryar kept Fountain's Dale
For seven long years and more,
And there was never a knight nor lord
Could make him yield before."

THE NOBLE FISHERMAN.

The adventure with the curtal Friar was chiefly on land: Robin's next adventure was on a less stable element, the sea. The ballad which describes his want of success as a fisher, and how he redeemed himself from captivity as well as from reproach with his bow, is called 'The Noble Fisherman,' and was found by Ritson in the collection of Anthony-à-Wood, with the following prose heading: "Showing how Robin won a prize on the sea, and how he gave the one halfe to his dame, and the other to the building of alms-houses." In Robin's days his countrymen were timid sailors: they seldom made a voyage in the winter months; they rarely went out of sight of land; and had exhibited but symptoms, at least, of that audacity tempered by skill which has since given them the command of the ocean. It was rather a love of variety than a love of salt water that took the King of Sherwood to sea: he became weary, says the ballad, of the woodside, chasing the fallow-deer, and the profitless occupation which he pursued; and, calling his men together, said,—

"The fishermen brave more money they have
Than our merchants two or three;
Therefore will I to Scarborough go,
A fisherman brave to be.

So, quoth Robin Hood, I'll to Scarborough go,
It seems a very fine day:
And he took his inn at a widow woman's house
Adown by the waters grey."

The widow looked at her lodger, and, seeing him personable and promising, inquired who he was, and what was his trade. "I am a poor fisherman," replied Robin, with a downcast look, "and in my own country I am called Simon of the Lee."

'Simon, she said, if thou'lt be my man,
Round wages I'll give thee;
For I have as good a ship of my own
As any that sails the sea."

Robin entered at once into the service of the buxom widow, and, joining his new comrades, they plucked up the anchor, and, sailing till old England grew dim in the distance, cast their baited hooks into the sea, and began to catch fish; but, alas! for Robin, he was ignorant of the whole mystery of fishing, and when others dropped their baited hooks into the water, he dropped in a naked hook and a bare line. This was not unobserved:—

"It will be long, said the master then,
Ere this lubber thrive at sea;
He shall not have one fin of our fish,
For in faith he's not worthy.

O woe is me, said Simon then,
And the day that I came here.
I wish I were in Plympton Park
Chasing the fallow-deer.

For every clown laughs me to scorn,
And a lubber they me call;
But if I had them in Plympton Park
I would put scorn on them all."

The moment for Robin to assert his superiority, even on the sea, was at hand: if he failed to arm his lines and bait his hooks, and caught nothing, while his companions laughed at his ignorance, his looks brightened as he saw a French rover bearing down upon them, for he had not forgotten to bring his bow and arrows: as Robin's face brightened, the master's countenance sank:—

"O woe is me, said the master then,
And the day that I was born;
For of all the fish we have caught this day
There is every fin forlorn.

For your French robbers upon the sea
Will not spare us a man,
But carry us to the shores of France
And cast us in prison strang."

The simulated fisherman ventured a word. "Master," he said, "do not be afraid; give me my bow and arrows, and not one Frenchman will I spare." There was a smile among Robin's companions at this, for they rated his skill at the bow by his skill in fishing: the master answered roughly,—

"Now hold thy peace, thou long lubber,
Thou art but brags and boast;
If I should cast thee overboard
There's but one lubber lost.

Simon grew angry at these words,
An angry man was he;
But he took his bent bow in his hand,
To the ship-hatch then went he."

But Robin found that a ship's plank afforded no such steady footing as the green sward of Plympton Park; he stood with difficulty, and drew an unsteady string:—

"Come, tie me to the mast, he cried,
Against my object fair,
And give me my bent bow in my hand,
And I'll no Frenchman spare.

He drew his arrow unto the head,
And he drew with might and main;
And to the first Frenchman's heart straightway
The cloth-yard shaft is gane."

Success brought security; as the Frenchmen began to drop before his deadly arrows, Robin's footing grew firmer, and his hand quite steady, and he requested to be unbound, that he might despatch his shafts more rapidly:—

"O, loose me from the mast, he cried,
And for them take thou no care;
But give me my bent bow in my hand,
And I'll no Frenchman spare."

This was complied with, it seems, though the ballad-maker has not recorded it; and Robin shot so fast and so well, that when they boarded the rover they found all her crew transfixed with arrows. Twelve thousand pounds in good red gold, and a ship well appointed and fit for sea, was the reward of the victors. Robin had forgiven the harsh words of the master, and the slighting laughter of his comrades, when the property came to be disposed of:—

"One half of the ship, said Simon then,
To our dame and children small;
And the other half of the ship I'll bestow
On you, my comrades all.

But up bespoke the master then,
Says, Simon now list to me;
You have won the ship with your own hand,
And you shall the owner be.

It shall be as I said, quoth Simon then;
With this gold for the oppress'd
An habitation I will build
Where they may live at rest."

Robin, having made this charitable disposition of his unexpected wealth, laid the name of Simon of the Lee aside, retired from the service of the widow of Scarborough, resumed his sylvan habits, and, seated once more beneath the Welbeck oaks, gave law to Church and State.

Robin Hood and Will Scarlett.

The ballad of 'Robin Hood and Will Scarlet' is very old, and has ever been popular: it was copied by the scrupulous Ritson from an old black-letter copy in the collection of Anthony-à-Wood, where it bears the title of 'Robin Hood and the Stranger.' The legend commences by sending out Robin from his bower in Sherwood in quest of a fat buck, or a friar with something in his pocket; for it appears, from an exclamation on the part of Little John, that there was little in the public purse, and less in the public larder. The person whom it was his luck to encounter seemed a dandy of the finest water:—

"As Robin Hood walk'd the forest along,
It was in the mid of the day,
There he was aware of a deft young man
As ever walk'd on the way.

His doublet was all of silk, 'tis said,
His stockings like scarlet shone,
And alone he walk'd on the greenwood path,
To Robin Hood all unknown."

But the stranger in his scarlet and silk was one after Robin's own heart:—

"The stranger he made no mickle ado,
But he bent a right good bow,
And the fattest of all the herd he slew,
Forty good yards him fro.

Well shot! well shot! quoth Robin Hood then,
That shot was shot in time,
And if thou wilt but accept of the place,
I'll make thee a yeoman of mine."

"A yeoman of thine!" said the other scornfully; "make haste and get out of my way, or by my faith thou shalt have buffets, and that instantly." "Thou hadst best abstain from buffets," replied Robin meekly; "for, though I seem but a lone person, a blast of this little horn would bring friends, and strong ones:"—

"Thou hadst best not wind thy horn, he said,
Whatever may be thy haste,
For I can draw out a good broad-sword
And quickly cut thy blast.

Then Robin Hood bent a very good bow
For to shoot he would full fain,
And the stranger he bent a very good bow
To shoot at bold Robin again."

"Hold! hold!" cried Robin, "this is the wrong way of going to work; if we shoot, one of us will surely be slain; but let us take sword and buckler, and go under yonder oak and prove ourselves." "As I hope to be saved," said the other, "'tis a good thought; so draw, and let us begin: beshrew me, if I fly one foot!"—

"Then Robin he lent the stranger a blow
Most scared him out of his wit;
Thou never lent blow, the stranger he said,
That shall be better requit.

The stranger then drew a good broad-sword,
And hit Robin on the crown;
Till from every hair of bold Robin's head
The blood ran trickling down."

"Gad-a-mercy, good fellow!" exclaimed Robin, "thou canst work as well with the broad-sword as with the bow; I must know thy name, and that of thy dwelling-place, before we go farther." "As for that," replied the other, "I care not who knows that I was born in Maxwell town, that I am called the young Gamwell, and that, for killing my father's steward, I am forced to the forest to seek an uncle of mine, whom some call Robin Hood." This was a timely explanation for both; the King of the Forest exclaimed—

"If thou art the cousin of Robin Hood, then
The sooner we shall have done;
By the faith of my body, the stranger replied,
I am his own sister's son."

There was kissing and embracing good store on this discovery, says the ballad; and Robin, who always loved to have a sharer in his joy, called out for Little John, who, on making his appearance, very deliberately prepared his weapon to strike on the part of his master. "Oh, no! no! friend John!" exclaimed Robin, interposing; "this must not be; he is my sister's son, and cousins I have no other:"—

"But he shall be a bold yeoman of mine,
My chief man next to thee;
And I, Robin Hood, and thou, Little John,
And Will Scarlett—the three,
Shall live the best and bravest outlaws
That range the north countree."

THE WIDOW'S THREE SONS.

The ballad which represents Robin Hood rescuing the widow's three sons, and hanging the sheriff in their stead, is from the York edition of 'Robin Hood's Garland,' and is looked on by Ritson as one of the oldest extant. Like many other national rhymes, this ballad begins by praising the season: there are twelve months, says the minstrel, in the year, but the merriest of all is the merry month of May, and in that month it was the pleasure of Robin Hood to take a walk towards the town of Nottingham, where he met an old woman crying bitterly: he proceeded to question her:—

"What news, what news, thou silly old woman,
What news hast thou for me?
Said she, Three squires of Nottingham town
To-day are condemn'd to die."

"What have they done, old dame, to deserve this?" inquired the outlaw, moved by her tears. "Have they burned parishes, or murdered priests, or injured virgins?" "They have neither," said the old woman, "burned parishes, nor murdered priests, nor harmed virgins—and yet they must die:"—

"Now what have they done, said Robin Hood then,
Old woman now tell to me.
Oh, it's for slaying the king's fallow-deer,
And bending their bows with thee.

Dost thou not mind now, Robin, she said,
Since I made you sup and dine—
By the faith of my body, quoth bold Robin Hood,
You tell't in a capital time."

He said no more, for words would only impede, not help, in the deed which he now resolved to do: moved by the memory of the old woman's kindness in other days, and his affection for the three yeomen who had borne bows at his bidding, he continued his walk towards Nottingham, till he met with a begging pilgrim, who, in answer to his inquiry, confirmed the old woman's tale, that three good squires were condemned to die that day at Nottingham. He took his measures at once:—

"Come, change thy apparel with me, old man,
Come, change thy apparel for mine;
Here's forty good shillings in white silver,
Go spend it in ale or wine.

O thine apparel is good, he said,
And mine is ragged and torn;
Wherever you go, wherever you ride,
Laugh not an old man to scorn.

Come, change thy apparel with me, old churl,
Come, change thy apparel with mine;
Here are twenty pieces of good red gold,
To feast thy brethren with wine."

The sight of the gold, and the dress of Lincoln green, overcame the palmer's reluctance, and the transfer was made, much, it would seem, to the amusement of both. Robin's carelessness of consequences, and the indulgence of humour, even in moments of peril and danger, are pictured in many a ballad, nor are they omitted here:—

"Then Robin put on the old man's cloak,
Was patch'd black, blue, and red;
He thought no shame the lee-day long,
To bear the bags of bread.

Then he put on the old man's breeks,
Were patch'd from side to side;
By the breath of my body, bold Robin can say,
This man lov'd little pride."

For every rag Robin had a joke, for every patch a pun: the old palmer's high-crowned hat, his darned hose and shoes, mended above and below, and armed with broad-headed hob-nails, were not put on without a sally, severally and collectively; and when the exchange was completed, Robin, surveying himself, declared it was a good habit which made the man, and hastened on his errand of mercy:—

"Now Robin Hood is to Nottingham gone
With a link down and a-down;
And there he met with the proud Sheriff,
Who was walking about the town.

O Christ, now save, O Sheriff! he said,
O Christ, now save and see!
Now what will you give to a silly old man,
To-day will your hangman be?"

Now the Sheriff seemed a man to whom nothing could be a warning: in the disguise once of a beggar, another time in that of an old woman, Robin had wrought him both sorrow and woe; but at present he looked on the disguised outlaw without any suspicion, and answered:—

"Some suits, some suits, the Sheriff he said,
Some suits will I give to thee;
Some suits, some suits, and pence thirteen,
To-day is a hangman's fee.

Then Robin he turns him round about,
And jumps from stone to stone;
By the faith of my body, the Sheriff he said,
Well jump'd, thou silly old man."

It would appear that while this conversation continued the three condemned men, accompanied by the Sheriff's soldiers, were on their way to the gibbet, which stood without the walls of the town; and that on the other hand the bands of the outlaw had approached unseen, and concealed themselves, whence they might advance and take an effectual part in the fray which they knew to be at hand. These matters influenced the reply of Robin, who knew well when it was best to come to extremities:—

"I ne'er was a hangman in all my life;
My curse upon the trade;
And cursed be he, said the bold Robin,
That first a hangman made.

I've a bag for meal and a bag for malt,
A bag for barley and corn,
A bag for bread, and a bag for beef,
And a bag for my little horn."

The Sheriff on this began to regard Robin with inquiring eyes; and desired to know the use of the little horn which he bore in his bag. "It is a horn," said the outlaw, producing it, "which I got from a friend of mine, and were I to set it to my mouth it might blow small good for thee." "O, wind your horn, saucy fellow," said the Sheriff; "wind it as loud as you please."

"The first loud blast that he did blow
He blew both loud and shrill;
A hundred and fifty of Robin Hood's men
Came riding over the hill.

The next loud blast that he did give
He blew both loud and amain;
As he blew, full sixty of Robin Hood's men
Came shining over the plain."

Even this vision of armed men in nowise alarmed the other, whose inveterate stupidity seems to have rendered him less fit to meet and foil Robin and his wiles than any sheriff on record; his final audit may be related in the graphic words of the ballad-maker :—

" O, who are those, the Sheriff he said,
  Come tripping it over the lea?
O, they are my servants, bold Robin can say,
  And their visit is meant to thee.

So they took the gallows from the slack,
  And placed it in the glen,
And thereon they hang'd the proud Sheriff,
  And released their own three men."

Robin Hood's rescue of Will Stutely, though equally daring and successful as that of the widow's three sons, has been less fortunate in finding a poet to give the details with the right simplicity and drama-like force. Though taken from the black-letter rolls of Anthony-à-Wood, it is a very modern as well as unpoetic composition: it is likely, indeed, that the author let loose his muse on some old ballad or tradition, and thought to do it high honour by bestowing on it a more polished air and scholar-like spirit.

The exploits of the outlaws made the Nottingham woods dangerous for a time to their sovereign, and he removed his roving camp into the forests of Yorkshire, where his name is still associated with bank and bay, and hill and dell, and glen and stream; nay, the well out of which Robin and his chivalry drank found such favour in the eyes of one of the Carlisle Howards, that he erected a handsome stone arch over the spring, where passengers used to halt and drink, and bestow alms on two old people, who, as late as half a century ago, found it profitable to abide by the well, and keep it in order. It may be found about four miles north of Doncaster, in a small hollow close by the highway, with its arch still in good order, and its water pure; but the attendant spirits are departed, and the spring is left with no other protection but the fame of Robin Hood.

THE STURDY BEGGAR.

When Robin Hood reigned, England swarmed with mendicants; some real, more feigned, and all willing to beg rather than work, and steal rather than beg. They were of all hues, all lands, and all ages: pilgrims, with a palm-branch in one hand, and a dirk concealed in their girdles; beggars, with pike-staves to enforce the charity they solicited, tinkers, who mended pots almost as dexterously as they robbed the folds; shepherds, who carried stones in their scrips, and could convert their crooks readily into quarter-staves; monks, who served our Lady less devoutly in the church than St. Nicholas in the greenwood; and, we add it with shame, minstrels, who, with harp in hand and sword at side, made townland and village pay handsomely for their undesired songs. These motley bands furnished men, and sometimes money, to the sovereign of Sherwood: no dexterous recruiting officer of our times ever surpassed him in singling out handy lads, on whose foreheads nature had written invisibly the word "soldier;" he knew a true customer at a glance; the determined step, the resolute air, the tart answer, and the arrow-like sharpness of eye, marked him for the long-bow and quarter-staff; while the whining tone, the lazy step, the supplicating air, the apparel well repaired, and the meal-bags well filled, spoke to Robin, as plainly as in words, that he looked on a wretch, rich and sordid, who had not the soul to enjoy the cash he had collected, and was therefore to be regarded as a diamond in a dunghill, a purse in a midden-stead to the outlaws of the forest. Several ballads relate Robin's adventures with sturdy mendicants, and they are neither the least amusing nor the least instructive of the collection.

The first beggar with whom it was his luck to encounter was of Scotch birth or extraction, and it seems quite plain that Robin did not well know in what class to place him, the sturdy or the sordid. One evening, while on his road from Barnesdale, he foregathered with this northern [illegible]

" He met a beggar on the way,
  Who sturdily could gang;
He had a pike-staff in his hand,
  That was both stark and strang.

A clouted cloak about him was,
  That held him frae the cauld;
The thinnest bit of it, I guess,
  Was more than twenty fauld."

A meal-bag was suspended from his neck, he had three hats stuck on his head, and a noble pike-staff in his hand: Robin at once concluded that he was wealthy, and as such proceeded to deal with him :—

" Tarry, tarry, good Robin he says,
  Tarry and speak with me;
He heard him as he heard him not,
  And fast on his way can hie.

O, it 's far to my lodging-house,
  And it is growing late;
If they have supp'd ere I come in,
  I will look woundrous blate."

" Thou art a sordid fellow," said Robin; " I see, if you get your own supper, you care not about mine; so, at a word, either lend me some money, or lay down thy clouted cloak, loose the strings of thy pokes, let me grope for thy gold, and take what will serve my turn; nay, an thou art sulky, I shall soon see if thy beggar-skin will resist an arrow."

" The beggar smiled, and answer made,
  Far better let me be;
Think not that I will be afraid
  Of thy bit crooked tree;

Or that I fear thee any whit,
  For thy sharp nips of sticks;
I know no use for them so meet,
  As to make pudding-pricks.'

Robin grew wroth with the Scotsman for speaking so scornfully of his bow and arrows, and, suddenly putting an arrow in its place, and placing his fingers on the string, drew it a span—he was not allowed to draw it farther :—

" The beggar with his noble tree
  Reach'd him so sound a rout,
That both his bow and broad arrow
  In flinders flew about.

Good Robin bound him to his brand,
  But that proved likewise vain;
The beggar lighted on his hand
  With his pike-staff again."

With his right arm disabled, and his bow broken, Robin was at the mercy of the mendicant, who laid on such load with his pike-staff, that he fell in a swoon :—

" Come, stand up, man, the beggar said,
  'T is shame to go to rest;
Stay till thou get thy money told,
  I think it were the best.

And syne go to the tavern-house,
  And buy both wine and ale;
Thereat thy friends will crack full crouse
  Thou hast been at the dale."

Leaving the outlaw lying insensible, the beggar marched boldly onward; he was not however out of sight when three of Robin's men arrived, and, finding their master in a swoon, they cast water on his face, and when he came to his senses inquired how all this happened :—

" A beggar with a clouted cloak,
  Of whom I fear'd no ill,
Hath with his pike-staff claw'd my back,
  I fear 't will ne'er be well.

See where he goes out owre yon hill,
  With three hats on his head;
If e'er you loved your master well,
  Go and revenge this deed."

One outlaw remained with Robin, the other two hastened after the begger. "Hollo, lads!" cried their master, "take care of his pike-staff! An he get room to use it, you will come by the worse." They bowed, and bolted off; but, as they ran, they resolved to use wile against wile: a near way through the woods placed them in the beggar's way, and both springing upon him at once with rough words and sharp dirks overmastered him, had him at their mercy, and, sticking up his pike-staff at a little distance, they stood to consult what was best to be done. "For God's sake, noble gentlemen," said the mendicant, "harm not a feeble man, who never harmed any one in all his life."

"Thou liest, false loon, they said again,
For all that may be sworn,
Thou hast nigh slain the gentlest man
That ever yet was born.

And back again thou shalt be led,
And fast bound shalt thou be,
To see an he will have thee slain,
Or hanged on a tree.'

"Ah, I am in a sad plight," thought the beggar, on hearing this, "but were I once more on my feet with my pike-staff in my hand, they should find it a hard task to take me but whither I pleased. Let me see now . there are wiles in all trades, and if I use some of my own well I may get out of their hands" He mused for a moment, and then said aloud, "Brave gentlemen, good gentlemen, be merciful to a miserable man: what I did was all in self-defence: but if you will be indulgent, I can be liberal —

"If you will set me fair and free,
And do me no more dere,
An hundred pounds I will you give,
And some more odd silvere,

That I have gather'd these many years,
Beneath this clouted cloak,
And hid up wonder privilie
I' the bottom of my poke.'

This was a sore temptation to the two outlaws, who stepped aside and began to confer upon it "We can take his money,' they observed, "and then slay him, and tell our master that we were obliged to kill him the hundred pounds will then be all our own.' They turned to the beggar and said, for present pay they would do as he desired, on which he loosed his cloak and spread it on the ground, and laid down sundry other pokes to hinder the wind from scattering his meal :—then

"He took a great bag from his halse,
It was nigh full of meal,
Two pecks in it at least there was
And mair, I wot full weel.

In every hand he took a nook
Of that great leathern mail,
And with a fling the meal he shook
Into their faces haill.

Wherewith he blinded them so close,
A stime they couldna see,
And then in heart he did rejoice,
And grasp'd his lusty tree."

No sooner had he seized his pike-staff than he applied it to the shoulders of the outlaws, and as he thrashed them he cried, "What! must I dust the meal off your clothes? If my pokes have blinded you, I shall knock the me alout of your een." They ran, and he followed, thrashing them at every halt made, and they were many, to clear their eyes. "Aha!" exclaimed Robin Hood, when the two delinquents came up, "you have sped well, you have been at the mill." On hearing of their misadventure he cried, "Fie, fie! we are shamed for a year and a day;" yet he could not help smiling to think that his two self-sufficient friends

"Had gotten a taste o' the tree."

LITTLE JOHN AND THE FOUR BEGGARS.

It would seem that on a time Robin Hood and his merry men had either little to eat or little to do, and so it was resolved that some one should go on a begging adventure—the choice fell on Little John :—

"Says John, if I must a-begging go,
I will have a palmer's weed;
With a staff and coat and bags of each sort,
The better then I may speed.

So give me now a bag for my bread,
And another to hold my cheese;
And one for a penny, should I chance to get any,
That nothing I may lose."

All this was no sooner said than done, and John, equipped like a mendicant palmer, set out on his mission. It would seem, however, that it was not without some suspicion that prey was at hand :—

"For as he was walking himself alone,
Four beggars he chanced to spy,
One deaf, two blind, while a fourth came behind;
Says John, here's brave companye.

What is there to do, sirs? said Little John;
Why ring all these bells? said he;
Whose dog is a hanging? Come, let us be ganging,
That we the plain truth may see."

The four beggars disliked and soon resented the intrusion of the fifth brother into a walk which they seemed to regard as their own. "There is no dog a hanging," said the first beggar, "but there is a man dead, which will afford us bread and cheese, and, possibly, one poor penny." The second beggar was of a fiercer nature; to hard words he added blows :—

"We have brethren in London, another he said,
So have we in Coventrie,
In Berwick and Dover, and all the world over,
But ne'er a crook'd carle like thee.

Therefore stand back, thou crooked carle,
And take that knock on the crown.
Nay, brethren, cried John, before I begone,
A bout I will have with you roun'."

John had already weighed the characters of the four beggars, and proved them to be of the sordid and bullying class. "Fight one, fight all!" he exclaimed; and to work he went.—

"John nipp'd the dumb and made him to roar,
And the blind he made to see,
And he that was lame for the last seven years,
He made him run faster than he.

And flinging them all against the wall,
With many a sturdy bang,
It made John to sing to hear the gold ring,
That against the wall cried twang."

One ran east, another ran west, but those that ran fared no better than those who remained, for they left their cloaks and wallets a prey to Little John, who, on proceeding to examine his spoil, found more than he had even hoped for.—

"For what found he in the beggars' bags,
But six hundred pounds and three;
If I drink water while this doth last,
Then an ill death may I dee.

O, my begging trade I will now give o'er,
My fortune hath been so good,
Therefore I'll not stay, but haste me away
To the Forest of merry Sherwood."

No sooner said than done; John made his way back to Robin Hood's dominions, and as he knew his haunts he soon found his master and all his company. "What news now, Little John?' he exclaimed; "what news hast thou, tell me, and how hast thou sped in begging?"

"No news but good, quoth he, Little John,
In begging full well have I sped;
Six hundred and three have I here for thee,
In silver and gold so red.

Then Robin Hood took Little John by the hand
And danced round the trystal-tree;
If we drink water while this doth last,
Then an ill death may we dee."

The favourite resort of Robin Hood and Little John and their comrades, when they desired to enjoy the wine of which they had deprived some luxurious abbot or sheriff, was a remarkable group of stones or rocks near Haddon Hall in Derbyshire, where the outlaw is believed to have built a sylvan palace and reigned lord of all, in spite of the Norman strengths of Haddon and Chatsworth. Two stones rise above their neighbours, and here an old tradition says that Robin sat on one and Little John on the other, delivering judgment on litigated matters of Forest Law; while another tradition still older asserts that Robin leaped or stepped *from* the summit of one to the other to show his wondrous agility, and that in consequence the stones have ever since been called Robin Hood's Stride.

ALLAN-A-DALE.

Robin Hood was a church reformer. The church in his days made and meddled more in public matters than would be seemly now; in truth, she could not well avoid it, since with her resided all knowledge required in affairs of state and the intercourse of nations. The illiterate nobility of the land contented themselves with the knowledge of martial things, and Jack Cade but desired to descend to their condition when he proposed to reduce learning to the score and the tally. But the hierarchy, not content with an absolute dominion over the consciences of the laity, secured to themselves no small portion of temporal things: they held the chief civil posts in the kingdom; and not a few of them put a plated shoe in a steel stirrup, and ruled the battle as well as church and court. Now Robin, who perhaps had but little scriptural knowledge, guessed, and guessed rightly, that there was no resemblance between a bishop or abbot of his own day riding out in full canonicals with sutlers and soldiers in his train, and one of the fathers of the church walking forth to teach the doctrine of salvation humbly and meekly with his scrip and staff,—and he resolved to abate what he considered a grievance, with a rough diligence peculiar to himself.

His first step in the path of reform was to correct the abuses in marriage-contracts: a Norman looked out for a handsome bit of land; rode over it, and saw that it lay lovingly into the lap of his own estate; then slew the male possessor, and led the female heir to church, and married her and her lands with becoming gravity. A union of this kind was about to take place one summer morning, and as the parties belonged to the diocese of Robin Hood, the outlaw naturally interested himself in the match: but we shall let the ballad-maker tell it his own way; and very well he tells it:—

" As Robin Hood in Barnesdale stood,
  All under the greenwood tree,
There he was aware of a brave young man,
  As fine as fine might be.

The youngster was clad in scarlet red,
  In scarlet fine and gay,
And he did trip it so over the plain,
  And chanted a roundelaye."

One day only passed, and the scene was changed; a cloud had descended, and all was dark and boding:—

" As Robin Hood next morning stood
  Amongst the leaves so gay,
There he did espy the same young man
  Come drooping along the way.

The scarlet he wore the day before,
  It was clean cast away,
And at every step he utter'd a sigh,
  Alake and a-well-a-day."

This alteration affected Robin, and two of his men went to the stranger, and desired him to come and speak with the outlaw under his trysting-tree. "Young man," said Robin courteously, " hast thou any money to spare for my men and me?"—" I have but five shillings and a ring, sir," replied the stranger sorrowfully, " which I kept carefully for my wedding—

" Yesterday I should have married a maid,
  But she was from me tane,
And chosen to be an old man's bride,
  Whereby my poor heart is slain.

Now what is thy name? said bold Robin Hood;
  Come, tell me, and that without fail.
By the faith of my body then, said the young man,
  My name it is Allan-a-Dale."

Robin looked at the stranger, and the more he looked he liked him the better. "Now, what will you give me," said he, " to help thee to thy true love, and put her safe into thy arms?"—" I have neither gold nor fee," said Allan-a-Dale; " but if you will rescue my bride I will swear, and that on a book, to be thy true servant."—" Enough said," answered Robin; and, having learned that the church where the wedding was to be stood some five miles distant, he whispered a few words to Little John, and, assuming the garb and guise of a minstrel, he reached the church before the bride reached the altar:—

" What hast thou here? the bishop then said;
  I prithee now tell unto me?
I am a bold harper, quoth he, Robin Hood,
  And the best in the north countree.

Now welcome, welcome, the bishop he said,
  That music best pleaseth me;
You shall have no music, quoth bold Robin Hood,
  Till the bride and bridegroom I see."

This minstrel boldness was evidently accepted by the bishop as a proof of his skill; the bridegroom and bride soon made their appearance:—

" With that came in a wealthy knight,
  Who was both grave and old;
And following him came a finikin lass,
  Who shone like the glistering gold.

This is no fit match, then, quoth bold Robin Hood,
  Good bishop, that you make here;
But since we are come to the holy church,
  The maiden shall choose her own dear."

The bishop gazed on the audacious harper, who, putting his horn to his mouth, summoned four-and-twenty friends to his side, all marching too in good order with their bows bent and their fingers on the string; and who was at their head but Allan-a-Dale, who advanced and gave the outlaw his bow and arrows! The bride glanced aside on him wistfully, and could not well imagine what all this meant:—

" This is thy true love, bold Robin he said,
  Young Allan, as I hear say;
And you shall be married in this same hour,
  And sicker I swear and say.

That shall not be, the bishop he said,
  For thy word cannot stand,
They shall be ask'd three times in the church,
  As the law says of our land."

For all this Robin found a ready remedy: the presence of mind of the outlaw never forsook him; he saw that the bishop stood by his order and by its law, and he indulged him to the letter, though not in the spirit:—

" Robin Hood pull'd off the bishop's coat,
  And put it upon Little John;
By the faith of my body, said jolly Robin,
  This cloth makes thee a man.

When Little John stepp'd into the quire,
  The people began to laugh;
He ask'd them seven times in the church,
  Lest three times should not be enough."

This more than strict observance seems to have pacified the bishop, who made no opposition. "Who gives this maid?" said the simulated churchman. "That do I," exclaimed Robin Hood; "and, let me add, he that takes her from my friend Allan-a-Dale shall buy her dearly." The bride, says the ballad, looked like a queen, and with her husband followed Robin to his woodland palace in Barnesdale Forest to make merry.

The Bishop of Hereford.

This interference of Robin Hood in spiritual matters, it seems, gave offence to his reverence the Bishop of Hereford, who said that measures should be taken to repress the insolence of the outlaw, and he promised to look strictly into the matter the first time he chanced to be near Barnesdale. It was on a sunny morning that Robin heard of the Bishop's approach "with all his company," and his joy was excessive.

"Go, kill me a fat buck, said bold Robin Hood,
Go slay me a fair fat deer,
The Bishop of Hereford dines with me to-day,
And he shall pay well for his cheer.

We will kill a fat buck, then said bold Robin Hood,
And dress it here on the way-side,
And we will watch the good Bishop narrowly,
Lest some other way he should ride."

He killed and skinned and laid the fat buck to the fire, and, with six of his men habited like shepherds, Robin was pacing round and round as the wooden spit with its savoury load revolved, when up came the Bishop of Hereford, who halted, and exclaimed, "What is all this, my masters? For whom do you make such a feast, and of the king's venison, verily? I must look into this."—"We are shepherds, simple shepherds, sir," replied the outlaw meekly; "we keep sheep the whole year round, and as this is our holiday we thought there was no harm in holding it on one of the king's deer, of which there are plenty."—"You are fine fellows," said the Bishop; "mighty fine fellows; but the king shall know of your doings: so quit your roast, for to him you shall go, and that quickly."

"O pardon, pardon, cried bold Robin Hood,
O pardon of thee I pray;
O it ill becomes a holy bishop's coat
For to take men's lives away.

No pardon, no pardon, the Bishop he said,
No pardon to thee I owe;
Therefore make haste, for I swear by St. Paul,
Before the king you shall go."

On this the outlaw sprung back against a tree, and, setting his horn to his mouth, made in a moment all the wood ring: it was answered, as usual, by the sudden appearance of three score and ten of his comrades, who, with Little John at their head, overpowered the Bishop's guard, and then inquired what was the matter, that he blew a blast so sharp and startling:—

"O here is the Bishop of Hereford,
And no pardon we shall have,
Ho, cut off his head, then quoth Little John,
And I'll go make him a grave.

O pardon, O pardon, then cried the Bishop,
O pardon of thee I pray:
Oh, had I known that you were so near,
I'd have gone some other way."

Now Robin had no pleasure in shedding blood; but he loved to enjoy the terrors of those whom he captured; and to keep them in suspense while he feasted them on the best was a favourite practice of his. It was in this spirit that he now spoke:—

"No pardon, no pardon, said bold Robin Hood,
No pardon to thee I owe;
Therefore make haste, for I swear by my bow,
That to Barnesdale with me you go.

Then Robin he took the Bishop by the hand,
And led him to merry Barnesdale;
And he supp'd that night in the clear moonlight,
On the good red wine and ale."

How this was to end the Bishop seems to have had a guess. The parody which the outlaw made on his threats of carrying him to the king showed that he was in a pleasant mood: and the venison collops, and the wine and ale, all showed a tendency to mercy, of which, as it was now late, he took advantage. "I wish, mine host," said the Bishop, with a sort of grave good-nature, "that you would call a reckoning; it is growing late, and I begin to fear that the cost of such an entertainment will be high." Here Little John interposed, for Robin affected, like a high tavern-keeper of the present day, great [illegible], leaving the task of fleecing his guests to his expert dependants. "Lend me your purse, master," said his scrupulous deputy, "and I'll tell you all by-and-by."

"Then Little John took the Bishop's cloak
And spread it upon the ground;
And out of the Bishop's portmantua
He told three hundred pound.

Here's gold enough, master, said Little John,
'Tis a comely thing for to see;
It puts me in charity with the good Bishop,
Tho' he heartily loveth not me.

Robin Hood took the Bishop by the hand,
And, causing the music to play,
He made the good Bishop to dance in his boots,
And glad he could so get away."

If we may put trust in ballad and song, the loss of his three hundred pounds dwelt on the Bishop's mind, and at the head of a fair company he went in quest of his entertainer. He had well nigh taken Robin by surprise: he was on him before he was aware; but the outlaw escaped into an old woman's house, to whom he called, "Save my life; I am Robin Hood, and here comes the Bishop to take me and hang me."—"Ay, that I will," said the old woman, "and not the less willingly that you once gave me hose and shoon, when I greatly needed them."

"Then give me, he said, thy gown of gray,
And take thou my mantle of green;
Thy spindle and twine next to me resign,
And take thou mine arrows so keen.

And when Robin Hood was so array'd,
He went to his trystal-tree;
But with spindle and twine he look'd oft behind
For the Bishop and his companee."

When Little John saw Robin coming towards him in this strange guise, he was puzzled, and said aloud, "Who is this so like a witch? I'll e'en try an arrow on her." Robin called, "Hold thy hand; I am thy master; and in this disguise I have escaped from the Bishop of Hereford. But stand where you are; the play is not played out yet—you will see more soon."

"The Bishop he came to the old woman's house,
And call'd in a furious mood—
Come, soon let me see, and bring quickly to me,
That bold traitor Robin Hood.

The old woman he set on a milk-white steed,
And himself on a dapple-gray;
And for joy he had gotten him bold Robin Hood,
He went laughing along the way."

The good Bishop's cheer was suddenly changed when at a turn of the road he perceived a hundred and odd archers drawn up in a position which commanded the passage. "Who can this be," he said, "that dares to range the greenwood so freely?"—"I am thinking," said the old woman, who had exchanged clothes with the outlaw, "that it must be one they call Robin Hood." The Bishop turned suddenly round and exclaimed, "And who art thou then?"—"I am an old woman, master Bishop," she said with a chuckle, "as I shall presently prove." The poor Bishop demanded no proof: the truth flashed upon him at once. "Woe is me," he exclaimed, "woe is me that I ever saw this day!" He had more cause to say so when Robin made his appearance, and with the aid of his comrades eased the dignitary of five hundred pounds in gold.

"Now let him go, said bold Robin Hood;
Little John said, that may not be,
For I vow and protest he shall say us a mass
Before that he go from me.

Then Robin he took the Bishop by the hand,
And 'neath the green trystal-tree
He made him to chant out a mass, God wot,
For him and his yeomandree."

From the adventures related in these ballads against the priests, rustic interludes and plays were made which became popular from Cornwall to Caithness. Some of them dealt gently, others severely, with the church; but all contained that opening scene in the legend of the Bishop of Hereford, where Robin, in the guise of a shepherd, with six of his comrades, roasted one of the royal bucks by the highway side, and made the haughty prelate eat of it and then pay for his cheer.

SIR RICHARD OF THE LEE.

It happened that the Sheriff of Nottingham, desirous to seize Robin and some of his merry men, "did cry a full fayre play" of archery, aware that he would be present at a strife so much after his own heart. The butts were placed "under the greenwood shaw," and the prize to the victor was announced:—

"A right good arrow he shall have,
The shaft of silver white,
The head and feathers of rich red gold,
In England is none like.

This then heard he good Robin
Under his trystall-tree;
Come, make you ready, my wight young men,
That shooting will I see."

When the outlaw and his lads approached Nottingham all was ready for the strife; bold archers handling their polished yews stood around, and in the midst the Sheriff, busy as a sheriff could be. Robin had small faith, it seems, in either the Sheriff's proclamations of peace or assurances of fair play: "Six of you," he said to his men, "shall shoot with me for the arrow with the golden head; the others must stand with their bows ready, lest all this should prove to be a plot."

"Thrice Robin he shot about,
And always slit the wand;
And so did good Gilberte
With the White Hand.

Little John and Will Scarlett
Were archers good and free;
And little Muche and good Reynold,
The worst they would not be."

But if Robin's men shot well, Robin himself shot better; he hit the mark with every shaft he discharged, and the Sheriff, as in duty bound, gave him the prize arrow. But as soon as he did this, he caused "great horns to blow," and cried out to seize the victorious archer, for he was Robin Hood. This was safer to say than do; the outlaw was already in full retreat, and in the manner of the Parthians.

"Full many a bow there was y-bent,
And arrows there let glide;
Full many a kirtle there was rent,
And wounded many a side.

Little John, he was hurt full sore,
With an arrow in the knee,
That he might neither run nor ride;
It was a great pitie."

"Master," said Little John when this befel, "I can go no farther; let not the proud Sheriff find me alive; I conjure you, by the faithful service I have done you, to take out your brown sword rather, and strike off my head." Robin was deeply affected:—

"I would not that, said Robin, then,
John, that thou wert slawe,
For all the gold in merry England,
Though it lay there in a raw.

Up then he took him on his back
And bare him well a mile,
And many a time he laid him down,
And shot another while."

In this emergency it is likely that the Sheriff would have prevailed against the King of the Greenwood, had not the good knight whom the outlaw had formerly befriended, Sir Richard of the Lee, admitted him with his merry men into his castle, where he set his pursuers at defiance. But the Sheriff surveyed the castle, placed an ambush, and though Robin and his men avoided it, Sir Richard fell into the snare while on a hawking excursion, and was carried prisoner towards the castle of Nottingham. On this the knight's lady mounted her palfrey, and rode to Sherwood Forest to acquaint the outlaw with the captivity of her husband.

"Up then sterte he, good Robin,
As man that had gone wode;
O busk ye, busk ye, my merry men all,
For him that died on rode.

And he that this sorrow forsaketh,
By him that died on tree,
And by him that all things maketh,
No longer shall dwell with me."

More than seven score of archers bent their bows, and neither hedge, nor ditch, nor dike, nor stream stayed them, till with Robin at their head they broke into Nottingham: the first man they met was the Sheriff accompanied by Sir Richard of the Lee, with his hands bound. "Speak to me, thou bold Sheriff," exclaimed Robin; "I vow to God, I have not run so far or so fast these seven years—judge ye if it is for your good."

"Robin, he bent a good yew-bow,
An arrow he drew at will;
And he hit so sore the proud Sheriff,
He on the street lay still.

And before he might arise
Upon his feet to stand,
There he smote off the Sheriff's head
With his bright brand.

Says lie thou there, thou proud Sheriff,
Evil mote thou thrive;
There might no man in thee have trust,
The whiles thou wert alive."

On saying this Robin cut the bonds of Sir Richard of the Lee, and desired him to accompany him to the greenwood, which he would find a surer refuge than his castle against the wrath of the king, which the slaughter of his Sheriff would call down on him and all that belonged to him. It fell out as the outlaw surmised: the king, accompanied by many nobles and knights, hastened to Nottingham, "and all to take that gentle knight, and Robin Hood, if he may." He confiscated the lands of the former; on the head of the latter he set a price, and marched northward after his brother-monarch. Everywhere he found the "trail"of worthy Robin.

"All the pass of Lancashire,
He went both far and near,
Till he came unto Plompton Park,
He miss'd many of his deer.

There our king was wont to see
Of herds many a one;
He hardly could find one fair deer
That carried one good horn."

"I swear by the Holy Trinity," exclaimed the king, "that I will give a knight's ransom for but a sight of this presumptuous outlaw; and on him who will bring me the head of that rebel Sir Richard of the Lee I will bestow his castle and lands, I swear by Saint Edward." There were among the courtiers some who seemed to think such offers injudicious.

"Then up and spake a fair old knight,
That was true in his fay,
Oh, my liege lord, my sovereign king,
One word I shall you say.

There is no man in this countrie
May hold that good knight's lands
While Robin Hood can ride or rin
With a bent bow in his hands.

That he not shall lose his land,
The best ball in his hood;
Give it no man, my lord the king,
That ye wish any good."

What influence these sensible words had with the king is not known; he continued his search after Robin, but, though he came where he had slain his deer and had held high carousal, he could never obtain a sight either of the outlaw himself or of any of his merry men. "By Saint Edward," cried he, "this fellow is invisible." A wily old forester, who understood the character of Robin, went up to the king and said, "If your majesty desires to see Robin Hood, you must do as I bid you, else he will continue invisible."—"And what do you desire I should do?" inquired the king.

"Take five of your ablest knights,
That be in all your lede,
And walk down to yon abbey,
And cleed ye in monk's weed.

And I will be your leade-man,
And lead you on the way;
And ere ye come to Nottingham,
Mine head then dare I lay

That ye shall meet with Robin Hood,
In life if that he be;
And ere ye come to Nottingham,
With een ye shall him see."

This proposal jumped with the king's humour: he went to the abbey and clothed himself in monk's weeds; and looking full grave and comely rode slowly on towards Nottingham with the forester and his five companions.

"Our king was great above his cole,
A broad hat on his crown,
Right reverendly and abbot-like,
He rode towards the town.

Stiff boots and large our king had on,
Forsooth as I you say;
And he sang through the good greenwood,
The convent is clothed in grey."

Now Robin, who had often in the dress of a beggar or a monk imposed on others, seems never to have imagined that a similar deceit might be practised upon himself; it is complimentary to the king's performance of the character of a monk that he fairly deceived the outlaw, who, on seeing him approach, advanced with a score of archers at his back, and stopped one who came desirous to be stopped: he did this with his usual courtesy.

"Robin he took the king's horse
Right hastily in that stede;
And said, Sir Abbot, by your leave,
Awhile ye must abide.

For we are yeomen of this forest,
Under the greenwood tree,
And we live by our good king's deer,
For other shift have not we.

And ye have churches and rents both,
And gold full great plentye;
Give us, I pray you, of your spending,
For fair Saint Charitee."

"I tell thee honestly, good yeoman," said the simulated monk, "I brought only forty pounds with me, but 'ere it an hundred thou and thy merry men should have it." Robin took the forty pounds; he gave twenty to his men and bade them be merry: he took ten to himself, and, returning ten to the king, said, "Take this for your journey; we shall meet some other time."—"If you are Robin Hood," said the monarch, "then I am desired by Edward our king to bid you come to him at Nottingham, where he now holds his court—he sends his royal seal as a true token." The outlaw knelt as he recognised the token, and said,—

"I love no man in all the world
So well as I do my king;
Thrice welcome is my lord's seal:
And, monk, for thy tiding—

Sir Abbot, for thy tidings good,
To-day shalt dine with me,
All for the love I bear my king,
Beneath my trystall-tree."

No sooner had the monarch of Sherwood said this than he blew his horn, and at the blast appeared seven score active young archers, who, at Robin's bidding, hastened east, west, north, and south, to collect what Sancho Panza called "belly-timber," leaving a royal guard to wait upon the outlaw, his guests, and accompany them to the trysting-tree, which grew in the depth of the forest. The table was soon covered with venison and bread and wine, and as the monarch sat down he muttered, "By St. Austin, here is a marvel! His men too are more at his bidding than my yeomen are at mine!"—"Make good cheer, Abbot," cried Robin, as he helped him to the fat and the strong of venison and wine; and for the news thou hast brought, may thou be ranked among the blest." When the king with his knights had refreshed themselves, "Thou shalt see, Sir Abbot," said Robin, "the manner of life we lead, and I pray thee to possess the king with it." As he spoke he waved his hand.

"Up then arose his men in haste,
Their bows were smartly bent;
Our king was never so sore aghast,
He ween'd to have been shent.

Two slender wands were then set up,
And thereto gaun they gang;
By fifty paces, our good king said,
The marks they were too lang."

On one of these wands Robin hung a garland, and said, "Whoever fails to shoot within that garland shall forfeit his bow and shafts, and receive a buffet." Little John shot, and so did Much and Will Scarlett, and so did all his men: whoever failed in his aim received such a buffet from the outlaw as made him reel; even Little John had to endure this, a humiliation which they all hoped for rather than expected from Robin. But the surest hand will sometimes fail: after shooting several times through the garland, and twice cleaving the wand, he missed the mark, perhaps wilfully, by three finger-breadths: on this his men called him to judgment: "Stand forth, sir," said Gilbert with the White Hand, "and take your pay—you did not spare us."

"If it be so, said bold Robin,
That better may not be,
Sir Abbot, I give thee mine arrow,
I pray, sir, serve thou me.
It falleth not mine order, said the king,
Good Robin, by thy leave,
All for to smite a good yeoman,
For doubt I should him grieve.
O smite on boldly, said Robin,
I give to thee full leave;
Anon our good king with that word
He folded up his sleeve.
And such a buffet he gave Robin,
To ground he gade full near.
I make mine avowe to God, quoth Robin,
Thou art a stalworth friar."

Robin looked at the king's arm and hand, and shook his head. "That hand can shoot as well as smite," he said, and gazed wistfully in his face. At this moment Sir Richard of the Lee recognised the king, and with Robin Hood knelt at his feet, asked for mercy and pardon, and obtained both, and the same indulgence was extended to all the outlaws of the forest; for the frank and kindly manners of the King of Sherwood had made Edward more gracious and merciful than was his wont. It was the king's pleasure to carry the outlaw with him to Nottingham, and, that the surprise of the court might be the greater, his Majesty laid aside his monkish garb, and, dressed like one of the outlaws in Lincoln green, made his appearance in the streets: the citizens were alarmed, some fled, some caught to sword and spear, and others smiled, for they knew the king, and were not a little rejoiced that Robin Hood had obtained life and grace. His Majesty confirmed in the court all that he had promised or granted in the greenwood, and even entered into a contest of archery with the outlaw, in which he shot well, but was foiled, and received back with usury the buffet bestowed on Robin when he missed by three finger-breadths the garland.

ROBIN HOOD'S END.

[illegible] Robin Hood began to grow weary of the court [illegible] kingly company; he felt his spirit to sink, and even his [illegible] hand with the bow to lessen, and he longed for Sherwood and liberty. He bade the king farewell, and turned his face to the north: when he approached his own sylvan empire, he heard the birds sing, and saw the dun deer skip, and his heart swelled. "It is long," he thought rather than said, "since I was here: I would fain try if my hand has retained its skill, and if men are yet ready, as of old, to come at the sound of my horn."

"Robin then slew a full great hart,
His horn then 'gan he blow,
And all the outlaws of that forest
That blast well could they know.

Full seven score came of wight young men,
And low they knelt on knee;
O welcome, they said, our dear master,
Unto the greenwood-tree."

The King of the Forest resumed, says the old ballad, the rule which for a while he had laid aside, and dwelt long under his trysting-tree, regardless of the entreaties of the king or the menaces of the nobles. At last time and toil began to do with Robin Hood all that they do with lesser spirits: one morning he had tried his shafts and found that they neither flew so far nor with their usual accuracy of aim, and he thus addressed Little John, the most faithful of all his companions:—

"I am not able to shoot a shot more,
Mine arrows refuse to flee,
But I have a cousin lives down below,
Who, please God, will bleed me."

Now this cousin was Prioress of Kirkley Nunnery in Yorkshire, and seems to have had no good will to Robin, whom she doubtless regarded as a godless and graceless person, who plundered church and churchmen, and set laws, both sacred and profane, at defiance

"Now Robin is to fair Kirkley gone,
He knock'd low at the ring;
And none came there, save his cousin dear,
To let bold Robin in.

[illegible] cousin Robin, she said,
Come drink some wine with me.
No cousin, I'll neither eat nor drink,
Till I blooded am by thee."

She took him to a lonely room and blooded him, says the ballad, till one drop more refused to run: then she locked him in the place with the vein unbound, and left him to die. This was in the morning, and the day was near the close when Robin, thinking the Prioress was long in returning, tried to rise, but was unable, and, bethinking him of his bugle when it was too late, snatched it up and blew three blasts. "My master must be very ill," said Little John, "for he blows wearily," and, hurrying to the Nunnery, was refused admittance; but, "breaking locks two or three," he found Robin all but dead, and falling on his knee begged as a boon to be allowed to "burn Kirkley Hall with all its Nunnery."—"Nay, nay," replied Robin, "I never hurt a woman in all my life, nor yet a man in woman's company: and as it has been during my life, so shall it be at my end."

"But give me my bent bow in my hand,
A broad arrow I'll let flee,
And where this shaft doth chance to fall
There shall my grave digg'd be.

And lay my bent bow by my side,
Which was my music sweet;
And cover my grave with the sod so green,
As is both right and meet.

And let me have breadth and length enough
By the side of yon greenwood,
That men may say, when they look at on,
Here lies bold Robin Hood."

Having given these directions he died, and was buried, some say, as he desired, under some fine trees near Kirkley, and a stone with an inscription was laid on the grave. Little John, it is said, survived but to see his master buried: his grave is claimed by Scotland as well as by England, but tradition inclines to the reputed grave in the churchyard of Hathersage. The bond of mind which had held his men so long together was now broken; some made their peace with the government, others fled to foreign parts, and nothing remained of Robin Hood but a name, which is to be found in our history, in our drama, in our ballads, in our songs, in our sayings, and in our proverbs.

THE OLD ENGLISH BALLADS.

By ALLAN CUNNINGHAM.

§ 3.—ROMANTIC BALLADS.

> " Listene these layes, for some there bethe
> Of love which stronger is than dethe,
> And some of scathe, and some of guile,
> And old adventures that fell while.'

Sir Cauline.

The above lines—a minstrel's description of the old metrical romances—introduce us to the true character and spirit of our ancient chivalrous ballads; a class of productions equally numerous and beautiful. They have a dash of the beliefs and impulses of the wild Scandinavian songs, without their moody and hare-brained extravagance; and are coloured with the choicest hues of the more classic romances, without their tedious details and incredible achievements. The former we obtained through our intercourse with the northern nations, and the latter from our alliance with the Normans, but their good sense, good feeling, and touching sentiments sprang from the mind and the heart of England. Our romantic ballads were to the yeoman of our land what the elaborate romances were to our earls and barons they are in truth but so many rustic romances, painting beliefs and impulses, and exhibiting characters and relating actions welcome to the hearts, and not beyond the understandings, of a rude and unlettered people It would not be difficult to prove that almost every romance of the baron was re-echoed in sentiment and narrative in the ballad of the husbandman, and less difficult still to show that much of the superstitious folly and tip-toe sentiment and love of the utterly incredible was abated or removed in the transmutation by the rustic minstrel. Yet, with all this lowering, or, as a husbandman would say, this thrashing out of the marvellous and the mad, these ballads are still—for the children of these our latter days at least sufficiently romantic they are often raised above the matters of common life into the regions of imagination, and without dragons which vomit fire, knights who can scatter armies, or enchanters who turn blades of Damascus steel into swords of rushes, cobwebs into cloth of gold, a lady's slipper into a barge, or a cave into a palace with a thousand statues of silver and ten thousand lamps of gold, they exhibit poetry enough to soothe the fancy, deeds of that order which satisfy the chivalrous with pictures of manners peculiar to old England, and sentiments so natural and just as to find an echo in every heart.

One of the earliest, and perhaps one of the best, of these romantic compositions, is that of Sir Cauline, a strain well known to Chaucer, and from which Spenser has borrowed some of his beauties It was once, and in many places is still, a favourite with all ranks It was chanted not only by the regular minstrels, a class of men who subsisted by singing to the harp poems of their own or of others' composition, but by the husbandman-minstrel, who, with the earth of his last turned furrow on his shoes, amused his own rustic circle with the loves and woes of knights and princesses. To a strain, enjoyed by the village maiden in her homespun kirtle and bodice, as well as by the baron's lady, whose train of embroidered velvet reached from end to end of her hall, we shall now request the attention of all who are not above attending to the sallies of passion and pathos which were the delight of our ancestors.

There once lived a king in Ireland, says the ballad, who had a beautiful daughter, loved of many princes, whose name was Christabel, and a knight, humbly born, but young, handsome, and brave, whose name was Sir Cauline. Both the rules of poetry and of nature called upon them to love one another; and as courtesy had something to say then in all such matters, love was first visible in the knight: he began to droop and pine, and finally fell sick and like to die. " Where is Sir Cauline, who used to serve our wine?" inquired the king, when the knight was not in place at the dinner-table. " Alas!" said an old knight, " he is sick, and will die, unless he is seen by a good physician.'—" Send for my daughter," said the king, " she is a good leech, and let her take bread to his chamber, and serve him with wine. we must not lose young Cauline.' The young princess, who guessed his malady, hastened to his chamber, followed, as was meet, by her maidens. " How are you, sir Knight?' she inquired. " O, sick, sick, fair lady,' he replied

> " Now rise up wightly, man, for shame,
> Never lie so cowardlie,
> For it is told in my father's hall
> You die for love of me.
>
> Fair lady, it is for your love
> That all this dool I drie,
> But if you would comfort me with a kiss,
> Then were I brought from bale to bliss,
> No longer would I lie '

" Sir Knight," said the princess, " my father is a king, and you know—none better that I never can be your wife." —' Thou art indeed a king's daughter,' said the despairing knight, " and I am not thy equal, but bid me do some deed of arms, that I may be thy bachelor" The princess mused a little, and then said, ' There grows a thorn on the Eldridge Hill, wake there from night till morn that is the deed which I require of you" As she said this she went away with her maidens, and Sir Cauline leaped up from his bed, put on his armour, and hastened, as the twilight came, to the hill, with whose terrors he was not unacquainted It was the favourite haunt of a pagan warrior called the Eldridge Knight, who maimed or slew all who presumed to enter his domains. Sir Cauline proceeded to fulfil his vow till the night was near its prime:—

> " Unto midnight that the moon did rise
> He walked up and down,
> When a lightsome bugle heard he blow
> Over the bent so brown.
> Quoth he, If cryance come till my heart,
> I am far from a good town.
>
> And soon he spied on the moor so broad
> A furious wight and fell,
> And a lady bright by his bridle ran,
> Clad in a fair kirtell"

" Begone, begone, Sir Knight,' he cried as he came, " for if thou hast fear in thee thou art but a dead man.'—" Fly thyself!" exclaimed Sir Cauline, " for I have no fear, and why should a Christian knight fly from a foul heathen?"

And as he said this he laid his lance in rest, and prepared for a fray:—

"The Eldridge Knight he prick'd his steed,
Sir Cauline bold abode;
Then either shook his trusty spear,
And the timber these two children bare
So soon in sonder slode.

Then took they out their two good swords,
And layden on full fast,
Till helm and hauberk, mail and shield,
They all were well nigh brast."

Sir Cauline's temper was better than that of his adversary; his skill too and activity were great: though the Eldridge Knight made heavy blows, and bore himself bravely, his right hand was struck off, and he fell to the ground, where he lay at the mercy of his opponent. The mercy shown in those days to the heathen was *anything* but tender: Sir Cauline waved his sword over his head, and exclaimed, "By the holy rood, thou shalt die!" but love interposed; the heart of the conqueror was appealed to:—

"Then up and came that lady bright,
Fast wringing of her hand;
For the maiden's love whom most you love,
Withhold that deadly brand.

For the maiden's love whom most you love,
Now smite no more, I pray;
And aye whatever thou wilt, my lord,
He shall thy hests obey."

The conditions on which the life of the vanquished was spared were hard: he undertook to believe in Christ, to give up arms, and cease in future to molest whatever travellers passed through the Eldridge lands. On swearing to their fulfilment, Sir Cauline helped him upon his horse, sent him and his lady back sorrowful to their castle, and proceeded to collect the trophies of his victory:—

"Then he took up the bloody hand
That was so large of bone,
And on it he found five rings of gold,
Of knights that he had slone.

Then he took up the Eldridge sword,
As hard as any flint,
And he took off those ringes five,
As bright as fire and brent."

Full of joy and hope Sir Cauline spurred back to the princess, and laid the tokens of his visit to the Eldridge Hill at her feet: Christabel was deeply moved. "Welcome, dearly welcome," she said; "for now I see thou art a true knight." He knelt, and all he could say was, "May I hope for thy love?" The princess, says the ballad, blushed a scarlet red at this, and, holding out her hand, said, "Thou art my bachelor; and if I may not wed thee, I vow to wed no one else." A kiss followed, the lady obeyed true love, which has always been a leveller, and made the young knight happy with her company as well as with her affection. But every white has its black, and every sweet its sour, says the moralizing minstrel:—

"For so it befel, as Sir Cauline
Was with that lady fair,
That the king her father walked forth
To take the evening air.

And into an arbour as he went
To rest his weary feet,
He found his daughter and Sir Cauline
There set in dalliance sweet."

His majesty was in a righteous and most royal anger; Christabel was packed off to her chamber, and her lover was hurried to a dungeon; but the queen was compassionate, and, instead of being racked and beheaded, Sir Cauline was only banished, and propriety, if not peace, was restored to the Irish court. But the thoughts of Christabel were with her lover; she reflected deeply on the distance which birth put between rank and merit; and as she reflected she forbore her usual diversions, took less food, and drooped as a lily droops in an ungentle wind. When the king saw this he was much affected, and with a wish to cheer his daughter's spirits he proclaimed a tournament:—

"And there came lords, and there came knights,
From many a far countree,
To break a lance for their ladies' love,
Before that fair ladie.

And many a lady there was set
In purple and in pall;
But fair Christabel, so woe-begone,
Was the fairest of them all."

As Christabel sat and looked on this martial contention, she observed that a stranger knight, whom no one knew, carried the prize from all other competitors: upon this person the minstrel has expended some of his choicest description:—

"His acton it was all of black,
His hauberk and his shield,
Nor no man wist whence he did come,
Nor no man knew where he did gone
When they came from the field."

While all were marvelling to what land this victorious stranger, who refused to be unhelmed, belonged, the king and queen were alarmed with the appearance of a strange champion, less likely, from his personal appearance, to prosper in a true love-suit than in a tournament; he was

"A huge giant both stiff and stark,
All foul of limbe and lere,
Two goggling een like fire farden,
A mouth from ear to ear."

A dwarf announced his lineage, his rank, and his claims; he was a Soldan, was cousin to the Eldridge Knight, and desired the hand of the princess in marriage, else he was resolved on war, and the palace, being of timber, would very likely, he said, be the first thing he would burn. "Is there never a knight in all my court," exclaimed the aged monarch, "who will fight for my daughter and me?" All were silent. "Alas!" he exclaimed, "will no one draw his sword and slay that proud Soldan, and so heir my crown and win the hand of a princess?"—

"But every knight of his round table
Did stand both still and pale;
For whenever they look'd on that grim Soldan
It made their hearts to quail.

All woe-begone was that fair ladie
When she saw no help was nigh;
She cast her thought on her own true love,
And the tears gush'd from her eye."

The stranger knight seemed to read her thoughts: he started suddenly up, saying, "Lady, be not afraid; lend me the sword of the Eldridge Knight, which hangs in thy bower, and I shall fight, and, I trust in Christ, slay this fierce Soldan who terrifies thy father and all his knights." The sword was brought, and, delivering it, she said to herself, "Would he were my own true knight;" all further reflections were interrupted by the deadly combat which ensued:—

"And now the Soldan and knight be met
Within the lists so broad;
And now with swords so sharp of steel
They gan to lay on load."

At the first stroke of the gigantic Soldan the stranger knight reeled; at the second his blood flowed from a severe wound; and at the third, so fiercely was he hit that he fell on his knee, and the princess and all her ladies shrieked. But he was not vanquished; while on his knee he perceived an opening in his enemy's armour, and springing nimbly to his feet, and making a thrust as he sprang, he pierced the Soldan to the heart, who dropped dead at his feet. But, faint himself from wounds, the victor fell down on the body of his foe; on seeing this the king exclaimed—

"Come down, come down, my daughter fair,
Thou art a leech of skill;
Far lieter had I lose half my realm
Than this good knight should spill.

Down then stepp'd that fair lady,
To help him if she may;
But when she did his beaver raise,
It is my life, my lord, she says;
And shriek'd, and swoon'd away.

Sir Cauline just lift up his eyes
When he heard his lady cry;
O lady, I am thy own true love,
For thee I wish'd to die."

The dying knight gave the princess one parting look, and when she came to herself she held a dead man in her arms: she laid her cheek to his, and said—

"O stay, my dear and only lord,
For me, thy faithful fere;
'T is meet that I should follow thee,
Who has bought my love so dear."

As she said this she fell into a swoon, and was borne lifeless out of the lists; and so ends this truly tragic and chivalrous story. Our readers will see that Scott, as well as Chaucer and Spénser, was familiar with the tale of Sir Cauline: witness the adventures of the Black Knight and Ivanhoe at Ashby-de-la-Zouche.

The Boy and the Mantle.

The ballad of 'The Boy and the Mantle' has more of mirth in it than of tears, and, though in its conception and handling perfectly chivalrous, it is Chivalry in his easy chair, with his sword laid aside and his helmet off, taking a hearty laugh at the sorrows of the ladies, in return for the difficult and dangerous deeds which they frequently had called on him to perform. In his girdle of Florimel, Spenser has used the same warp and woof out of which the old minstrel, as our readers will soon perceive, wove the kirtle and mantle of this humorous ballad. The horn in 'Morte Arthur' would have been a proper companion to this sensitive garment: this was a horn all garnished with gold, and of such virtue that no lady untrue to her husband might drink out of it: for if false she would spill all the wine, but if true she might drink peaceably. This enchanted horn was sent to acquaint King Arthur with the frailty of his wife Gunever: but was intercepted by King Mark, whose queen, with one hundred of her ladies, tried to drink out of it, and only four could drink without spilling.

In the third morning of May, says the minstrel, more scrupulous in dates than minstrels are wont, a young man came to the court at Carlise, bearing a mantle of a rare pattern and of a rare nature. "God speed thee, King Arthur," said the unceremonious stranger; "and God be with thy fair queen Gunever, I have brought a curious article of female finery, well shaped and fair to look on, which I wish her majesty to try on; but it has one small fault, it will neither keep shape nor colour a moment on any lady that hath done amiss." On this, says the ballad, every knight in the court began to be in fear; not so Queen Gunever, who, stepping intrepidly forward, seized the mantle and threw it at once over her person:—

"When she had taken the mantle,
She stood as she'd been mad;
It was all from top to toe
As shears had it shrad.

One while it was gule,
Another it was green;
Another while was it wadded;
Ill did it her beseem."

"By my faith," exclaimed King Arthur, as he saw the changing hues and shape of the mantle, "by my faith, I fear thou art not true!" Her majesty, it seems, with no experience in such enchanted garments, had expected no such result:—

"She threw down the mantle,
That bright was of blee,
And fast with a red face
To her chamber ran she.

She curs'd weaver and warper,
The cloth that had wrought;
And bade vengeance on his crown
That hither had it brought."

"O shame!" she murmured when she reached her chamber; "I had rather live wild under the green trees of the forest without kirtle or mantle than thus be affronted so openly in the court of my husband Arthur." On seeing this mishap of the queen, Sir Kaye called on his lady, saying, "Here, put on this mantle, if thou art innocent; but, if thou art guilty, bide where you are—come not near it." The lady advanced and threw the mantle around her; but all the knights laughed, and one or two ladies tittered, when the mantle shrivelled and shrunk together; she threw it down and followed the queen. An old knight, when he saw this, repeated the creed, and whispered to his page, "I will give thee twenty marks to take this mantle to my wife." The lady assumed the offered mantle with a haughty air, but no sooner did it touch her than it shrunk up to "a tassel and a thread;" she bade evil befal the whole court, and ran after her majesty. The next experiment was more honourable to the dames of the court of Carlisle:—

"Cradocke call'd forth his lady,
And bade her come in;
Saith, Win this mantle, lady,
With a little din.

Win this mantle, lady,
And it shall be thine;
If thou never did amiss
Since thou wert mine."

With a modest air Sir Cradocke's lady took up the mantle: all the court looked eagerly on, expecting shame to the knight; and it seemed at first as if their expectations were to be gratified:—

"When she took up the mantle,
And cast it her about,
Up at her great toe
It gan crinkle and crowt;
She said, Down, down, mantle,
And shame me not for nought.

For once I did amiss,
I tell you certainly;
When I kiss'd Sir Cradocke's mouth
Under a great tree;
When I kiss'd Cradocke's mouth
Before he married me."

On this confession the mantle fell into folds as elegant and decorous as a virtuous dame could desire; on seeing this Queen Gunever came from her chamber bursting with envy, exclaiming, "She virtuous! I have seen in her chamber—" She was interrupted by the stranger to whom the mantle belonged; "Sir King," said he, "your wife is much too bold: I can give you other proofs of her misconduct and of the purity of the wife of Sir Cradocke, whom she defames." A wild boar, as he spoke, ran by; he seized it, killed it, and, laying the head down before the court, said, "No man whose wife has done him wrong can carve that." Some hid their knives, others pretended they had none, and King Arthur saw with dismay, that all those who tried failed, for the edges of their knives of Milan steel turned up like lead:—

"Sir Cradocke had a little knife
Of iron and of steel;
He brittled the boar's head,
Wondrous quick and weel,
That every knight in the king's court
Had a morsell."

All owned that this second proof was conclusive. "I have a third," said the lad of the mantle, producing a golden horn and filling it with wine. "Let any knight whose wife hath erred try to drink out of that." The wine was spilt on the shoulder of one, on the knee of another, and in the eyes of a third, and refused to run into any mouth save that of Sir Cradocke, who won the horn and the boar's head, while his lady carried off the mantle amid the envy and the acclamations of the court.

The Childe of Elle.

The 'Childe of Elle' was found by Percy in his old black folio of ballads, and owes here and there some of its propriety and some of its narrative to the kindred taste of that accomplished scholar. The opening is in the true spirit of minstrel romance:—

"On yonder hill a castle stands
With walls and towers bedight,
And yonder lives the Childe of Elle,
A young and comely knight.

The Childe of Elle to his garden went,
And stood at his garden pale,
When, lo! he beheld fair Emmeline's page
Come tripping down the dale."

The lord of Elle hastened to meet this messenger, in whose haste he read tidings of weight: he hails him with all the impatience of a lover:—

"Now Christ thee save, thou little foot-page,
Now Christ thee save and see;
Oh, tell me how does thy lady gay,
And what may thy tidings be?

My lady she is all woe-begone,
And the tears fall from her eyne;
And aye she laments the deadly feud
Between her house and thine."

Something of this the Childe of Elle had heard before, yet he was glad to hear it again, and he looked with a beating heart on the silken scarf which the page assured him was yet wet with her tears; and on a ring of gold, the last gift she would likely send him, and which she desired him to wear for her sake when she was dead and gone:—

"For ah! her gentle heart is broke,
And in grave soon must she be,
Sith her father hath chose her a new new love,
And forbid her to think of thee.

Her father hath brought her a carlish knight,
Sir John of the north countraye,
And within three days she must him wedd,
Or he vows he will her slaye."

These sad tidings seemed not to daunt the Childe of Elle: he at once desired the little foot-page to tell fair Emmeline that her own true love would come and free her, or die: "So hie thee back speedily," he said, "and tell her I will be at her window to-night, be it for weal or woe." The boy answered with his feet:—

"The boy he tripp'd, the boy he ran,
He neither stint nor stay'd,
Until he came to fair Emmeline's bower,
When, kneeling down, he said:

O, lady, I've been with thine own true love,
And he greets thee well by me;
This night will he be at thy bower window,
And die or set thee free."

The lady made no reply to this, but sat in her chamber till night came; and when all were asleep she was awake, and when all other eyes were dry hers were moist with tears. Midnight was nigh when she heard steps under her window; and she soon heard too the voice of her true love, between a whisper and a call, bidding her arise and mount his palfrey, which would soon carry her beyond the reach of pursuit. Fair Emmeline had her scruples:—

"My father he is a baron bold,
Of lineage proud and high;
And what would he say if his ae daughter
Away with a knight should fly?

Ah, well I wot he never would rest,
Nor his meat do him no good,
Until he had slain thee, Childe of Elle,
And seen thy dear heart's blood."

The Childe of Elle, who perhaps thought this no proper time for such scruples, said he would take her at once to his lady-mother, with whom she would dwell till marriage made them one: nor had he come there without the means of carrying her safely away:—

"O lady, wert thou in thy saddle set,
And a little space him fro,
I would not care for thy cruel father,
Nor the worst that he could do.

O lady, wert thou in thy saddle set,
And once without this wall,
I would not care for thy cruel father,
Nor the worst that might befal."

These were cheering words to fair Emmeline; yet she hesitated, and trembled, and stood within her window like a young bird that fain would fly, yet feels afraid to trust its wings. The Childe of Elle took her by the hand, and, with more of persuasion than of force, carried her to his palfrey, and, kissing her tenderly while her tears fell fast, or rather, as the old minstrel declares, "ran like the fountain free,"—

"He mounted himself on a steed so tall,
And her on a fair palfraye,
And slung his bugle about his neck,
And roundly they rode awaye.

All this beheard her own damsell,
In her bed whereas she lay:
Quoth she, My lord shall be told of this,
And I shall have praise and fee."

No sooner said than done. Unlike the "little foot-page," the young lady's "own damsel" was a mercenary creature; nor did she, in alarming the baron, hesitate to say that Emmeline had fled with the Childe of Elle, in obedience to a coarser feeling than that of love:—

"The baron he woke, the baron he rose,
And call'd his merry men all;
And come thou forth, Sir John the knight,
Thy lady is carried to thrall.

Fair Emmeline scarce had ridden a mile,
A mile forth of the town,
When she was aware of her own father's men
Come galloping over the down."

This unwelcome apparition no whit dismayed the Childe of Elle, who was, perhaps, even glad to see his north-country rival leading the van and animating the pursuit; nay, we may imagine that he even slackened his pace, that the sword might the sooner decide between them. "Stop, thou false knight, nor carry that lady farther," exclaimed Sir John; "she is of gentle blood, and thou art the son of a base churl." "Thou liest, and loudly," replied the Childe of Elle; "my father was a knight, and my mother a lady, which is more than thou canst say:" and, drawing his sword, he sprang from his horse, and said to Emmeline,—

"But light now down, my lady fair,
Light down, and hold my steed,
While I and this discourteous knight
Do try this arduous deed.

Fair Emmeline sigh'd, fair Emmeline wept,
And aye her heart was woe,
While 'twixt her love and the carlish knight
Pass'd many a baleful blow."

But fortune took, contrary to custom, the side of courtesy and love; the carlish knight fought indeed fiercely, and the contest was stubborn, but a lucky blow from the Childe of Elle settled the debate for ever; yet, before the victor was able to remount and continue his flight, the baron and all his men were close at hand. Fair Emmeline was in despair: not so her companion, who seems to have merited his fortune through prudence as well as bravery:—

"Her lover he put his horn to his mouth,
And blew both loud and shrill,
And soon he saw his own merry men
Come riding over the hill.

Now hold thy hand, thou bold baron,
I pray thee, hold thy hand;
Nor ruthless rend two gentle hearts
Fast knit in true love's band."

His men now came hurrying in to second his persuasions: the baron looked at the slain knight, at his trembling daughter, and the gallant Childe of Elle, but hereditary hatred was hard to overcome; and it would seem too that the reproaches of Sir John of the north country had made some impression, for, besides urging mutual affection, the Childe of Elle thought it right to explain his lineage :—

"My mother she was an earl's daughter,
And a noble knight my sire—
The baron he frown'd and turn'd away,
With mickle dole and ire.

Fair Emmeline sigh'd, fair Emmeline wept,
And did all trembling stand;
At length she sprang low to her knee,
And held his lifted hand.

Pardon, my lord and father dear,
This fair young knight and me;
Trust me, but for that carlish knight,
I never had fled from thee."

Sore was the struggle in the mind and heart of the baron; but every moment his resolution was giving ground: the lover of his choice lay beside him dead and stiff; the lover of his daughter's choice stood before him fair and young, and well descended: his hesitation is happily described :—

"The baron he strok'd his dark-brown cheek,
And turn'd his head aside,
To wipe away the starting tear
He proudly strove to hide.

Here, take her, Childe of Elle, he said,
And gave her lily-white hand;
Here, take my dear and only child,
And with her half my land."

The followers on both sides began on this to put up their swords, and step nearer to hear the words which were to bring peace to two hostile houses and conclude a very romantic adventure: these words of peace were spoken by the baron to his future son-in-law :—

"Thy father once mine honour wrong'd,
In days of youthful pride;
Do thou that injury repair,
In fondness for thy bride.

And as thou love her and hold her dear,
Heaven prosper thee and thine,
And now a father's blessing on thee,
My own fair Emmeline."

GLASGERION.

'The Childe of Elle' is not more happy than 'Glasgerion' is tragic. Of the hero of the ballad Percy remarks that "the 'Briton Glaskeryon,' whoever he was, is apparently the same person with our famous harper Glasgerion." In this mournful strain may be seen an instance of minstrel dignity; he is a king's son, and appears in the character of a harper or minstrel in the court of a foreign prince; he wears a chain of gold, rides on horseback, and keeps company with the king's daughter. His skill on the harp, as represented in a Scottish ballad, was supernatural :—

"He could harp a fish out of the water,
And water from a stane,
And milk out of a maiden's breast
That bairn had never nane."

The Glasgerion of the south pretended to no such powers, yet he was probably a handsome man as well as a skilful harper, since he moved the hearts of the queen's ladies as well as that of a princess. The commencement of the ballad goes abruptly and roundly into the business :—

"Glasgerion was a king's own son,
And a harper was he good:
He harped in the king's chamber,
Where cup and caudle stood.

And so did he in the queen's chamber,
Till ladies all waxed glad;
Up then bespake the king's daughter,
And these words thus she said :—

Strike on, strike on, Glasgerion,
Of thy striking do not blin;
There's never a stroke o'er thy harp,
But it glads my heart within."

The heart of the minstrel rejoiced at this, for her beauty had drawn him from his father's court, and long had he harped and sung in her presence without the reward of a gentle word or a kind look :—

"O fair befal him, lady, quoth he,
Who taught you now to speak;
I have loved thee, lady, these seven long year,
My mind I ne'er durst break.

But come to my bower, Glasgerion,
When all men are at rest;
As I am a lady true of my word,
Thou shalt be a welcome guest."

A glad man was Glasgerion: he hurried home, but the vanity of the poet overcame the prudence of the prince; he called to him his page, a young man of low extraction, and with all the cunning of a degraded class, and none of the honour and courtesy which he could not fail to observe in the company kept by his master. To this perfidious page the poet, in the joy of his heart, communicated the agreeable command he had just received from the princess. "You have not rested well for some time," said his treacherous adviser, "so lay your head down here, snatch an hour or so of sleep, and I shall watch and awaken you before it is time to be gone." No sooner was the unreflecting poet asleep than to work went the wily page :—

"And up then rose that lither lad,
And hose and shoon did on,
And a collar he cast about his neck;—
He seem'd a gentleman."

In the dress and imitating the look of his master, he hastened to the palace, and made the appointed signal; nor did he stand long, for the princess, suspecting no treachery, was true to her word; yet she seems to have had some misgivings, since he continued silent, and did not comport himself like a lover bred in a school of courtesy :—

"He did not kiss that lady's lips,
Nor when he came, nor youd;
And sore mistrusted that lady gay
He was of some churl's blood."

The wily page then hastened home, changed his clothes, and awakened his master :—

"Awake, awake, my dear master,
The cock hath well nigh crown;
Awake, awake, my master dear,
I hold it time to be gone.

For I have saddled your horse, master,
Well bridled have I your steed;
And I have served you a good supper,
For thereof ye have need."

The minstrel neglects to say whether Glasgerion indulged himself with the meal which his cunning page prepared; he only says that he arose, put on his hose and shoon, threw a collar of gold about his neck, in sign that he was of royal blood, and hastened to fulfil his appointment. He found the princess ready to admit him, but, with surprise in her looks and questions on her tongue :—

"Says, whether, now, have you left with me
Your bracelet or your glove?
Or are you returned back again
To know more of my love?

Glasgerion swore a full great oath
By oak, and ash, and thorn:
Lady, I was never in your chamber
Sith the hour that I was born."

The terrible truth flashed at once on her mind: she had been deceived in her dearest affections and cheated out of her innocence by some base intruder, whom she at once concluded to be her lover's page; and when she reflected that her nocturnal visitor was of churl's and not of royal blood, her despair knew no bounds: she seized a little knife which she used in embroidery, and, before Glasgerion could interpose, she fell dead at his feet. In a calmer mood the poet went home, though he was no less deep in sorrow; he called his page to him, had recourse to no upbraidings, but, with an almost miraculous command of temper, said—

"If I had kill'd a man to-night,
Jack, I would tell it thee;
But if I have not kill'd a man to-night,
Jack, thou hast killed three.

And he pull'd out his bright brown sword,
And dried it on his sleeve,
And he smote off that lither lad's head
Who did his lady grieve.

He set the sword's point till his breast,
The pummel unto a stone;
Through the falseness of that lither lad
These three lives were all gone."

The 'Glasgerion' of England seems to have inspired the 'Glenkindie' of Scotland, a ballad less brief, but equally tragical. The princess of the north, however, was aware of the treacherous nature of her lover's page, and warned him to beware how he made him his confidant. He promised; and yet, so vain was he of the lady's love, that he told his page of his tryste as soon as he went home, warning that his life was not worth a moment's lease if he allowed him to sleep beyond the time appointed. The page promised, but sinned, and was hanged over Glenkindie's gate, "as high as high could be."

THE HEIR OF LINNE.

The ballad of 'The Heir of Linne' has in its numbers the sound of the "north countree," and is perhaps of Scottish descent, though found in Percy's 'Southern Ballad-Book.' The hero belongs, however, by all theories, to the other side of the Tweed: he is called, too, a lord of Scotland in the rhyme; not as a lord of parliament, but a laird whose title went with his estate. The old thrifty Laird of Linne died, and left his all to an unthrifty son who loved wine and mirth:—

"To spend the day with merry cheer,
To drink and revel every night;
To card and dice from eve till morn,
It was, I ween, his heart's delight.

To ride, to run, to rant, to roar,
To always spend and never spare;
I wot, an it were the king himself,
Of gold and fee he mot be bare."

And bare he soon became: when all his gold was spent and gone, he bethought him of his father's steward, John of the Scales, now a wealthy man, and to him he went for help: he was received with courtesy:—

"Now welcome, welcome, lord of Linne,
Let nought disturb thy merry cheer;
If thou wilt sell thy lands so broad,
Good store of gold I'll give thee here.

My gold is gone, my money is spent,
My land now take it unto thee;
Give me the gold, good John o' the Scales,
And thine for aye my land shall be."

John o' the Scales drew out the agreement as tight as a glove, gave earnest-money that all might be according to custom as well as law, and then reckoned up the purchase-money, which would not have bought more than a third of the land in an honest and open market:—

"He told him the gold upon the board,
He was right glad his land to win;
The gold is thine, the land is mine,
And now I'll be the lord of Linne.

Thus hath he sold his land so broad,
Both hill and holt, and moor and fen;
All but a poor and lonesome lodge,
That stood far in a lonely glen."

This lonesome lodge was preserved in obedience to a vow made to his father, who told him on his death-bed that when he had spent all his money and all his land, and all the world frowned on him for a spendthrift, he would find in that lonely dwelling-place a sure and faithful friend. Who this friend in need was, the young lord of Linne never inquired when he made the reservation; but, taking up the gold of John of the Scales, and calling on his companions, drank, and diced, and spared not:—

"They ranted, drank, and merry made,
Till all his gold it waxed thin;
And then his friends they slunk away,
And left the unthrifty Heir of Linne.

He had never a penny left in his purse,
Never a penny left but three;
And one was brass, another was lead,
And the third it was of white monie."

"Well," but said the Heir of Linne, "I have many friends, trusty ones, who ate of the fat and drank of the strong at my table; so let me go and borrow a little from each, in turns, that my pockets may never be empty:"—

"But one I wis was not at home,
Another had paid his gold away;
Another call'd him a thriftless loon,
And sharply bade him wend his way.

Now well-a-day, said the Heir of Linne,
Now well-a-day, and wo is me;
For when I had my lands so broad,
On me they liv'd right merrilie."

The Heir of Linne stood and mused a little now on his ruined fortunes. "It were a burning shame," thought he, "to beg my bread like a common mendicant; to rob or steal would be sinful, and my limbs are unused to work; besides, labour is unbecoming in a gentleman; let me go therefore to that little lonesome lodge of which my father spake, and see what it will do for me, since there is no help elsewhere:"—

"Away then hied the Heir of Linne,
O'er hill and holt, and moor and fen;
Until he came to that lonesome lodge
That stood so low in a lonely glen.

He looked up, he looked down,
In hope some comfort for to win;
But bare and lothely were the walls—
Here's sorry cheer, quo' the Heir of Linne.

The little window, dim and dark,
Was hung with ivy, brier, and yew;
No shimmering sun here ever shone,
No halesome breeze here ever blew.

No chair, no table, mot he spy,
No cheerful hearth, no welcome bed;
He saw but a rope with a running noose,
Which dangling hung above his head."

"Ah! this is the friend my father meant," said he, regarding the vacant noose with an eye which seemed to say welcome; while, as if the hint of the rope was not sufficient for a desperate man, a few plain broad letters told him, since he had brought himself to poverty and ruin, to try the trusty cord, and so end all his sorrows:—

"Sorely shent with this sharp rebuke,
Sorely shent was the Heir of Linne;
His heart, I wis, was nigh to brast,
With guilt and sorrow, shame and sin.

Never a word spake the Heir of Linne,
Never a word he spake but three;
This is a trusty friend indeed,
And is right welcome unto me."

He said no more, but, putting the cord round his neck, gave a spring into the air; but, instead of the death which he expected, the ceiling to which the rope was fixed gave way: he fell to the floor, and on recovering was surprised to see a key attached to the cord, with an inscription which told him where to find two chests full of gold and a chest full of silver, containing a sum more than sufficient to set him free and redeem his lands; with an admonition to amend his life, lest the rope should be his end. "I here vow to God," exclaimed the Heir of Linne, "that my father's words shall be my guide and rule in future, else may the cord finish all!" He secured the money, turned his thoughts on his estate, and hastened to the house of Linne, resolved to be wily as well as prudent, for he knew the character of the new proprietor. With John of the

Scales it happened to be a day of feasting and mirth: at one end of a table covered with dainties, amid which the wine was not forgotten, sat the said John, at the other his wife, swollen with newly-acquired importance; while neighbouring lairds all in a row made up the gladsome company:—

> "There John himself sat at the board head,
> Because now lord of Linne was he;
> I pray thee, he said, good John o' the Scales,
> One forty pence for to lend me.
>
> Away, away, thou thriftless loon,
> Away, away, this may not be;
> For Christ's curse on my head, he said,
> If ever I trust thee one pennie."

This was probably what the Heir of Linne wished, as well as expected. Woman in the hour of need or of misery is said to be merciful and compassionate: so he turned to the new lady of Linne, saying, "Madam, bestow alms on me for the sake of sweet Saint Charity." "Be gone," exclaimed this imperious madam; "I swear thou shalt have no alms from my hand—were to go hang spendthrifts and fools, we would certainly begin with thee:"—

> "Then up bespoke a good fellow,
> Who sat at John o' the Scales's board;
> Said, Turn again, thou Heir of Linne,
> Some time thou wast a well good lord.
>
> Some time a good fellow thou hast been,
> And sparedst not thy gold and fee;
> Therefore I'll lend thee forty pence,
> And other forty if need be.
>
> And ever, I pray thee, John o' the Scales,
> To let him sit in thy companie;
> For well I wot thou hadst his land,
> And a good bargain it was to thee."

"A good bargain!" exclaimed John of the Scales, in wrath; "you know little about bargains, else you would not talk so: curses on my head, say I, if I was not a loser by the bargain."

> "And here I proffer thee, Heir of Linne,
> Before these lords so fair and free,
> That thou shalt have it cheaper back
> By a hundred marks than I had of thee."

"I take you all witnesses, gentlemen," said the Heir of Linne, casting him, as he spoke, a god's penny for earnest-money; "and here, good John o' the Scales, is the gold." All present stared, for no one expected such an event. He proceeded to act upon the purchase,—

> "And he pull'd forth three bags of gold,
> And laid them down upon the board;
> All woe-begone sat John o' the Scales,
> So shent he could say never a word.
>
> He told him forth the good red gold,
> He told it forth wi' mickle din;
> The gold is thine, the land is mine,
> And now I'm again the lord of Linne.
>
> Now well-a-day, said Joan o' the Scales,
> Now well-a-day and woe's my life,
> Yestreen I was my lady of Linne;
> Now I'm but John o' the Scales's wife."

John himself, it would seem, remained silent: the fine edifice which he had reared was pulled about his ears, and he was buried in the rubbish. The Heir of Linne, addressing the guest who offered him the forty pence, made him the keeper of the "wild deer and the tame" throughout all his forests, and, turning to John o' the Scales, as that worthy rose to be gone, said, "Farewell, now and for ever; and may my father's curse fall on me if I bring my inheritance into jeopardy again!" The wisest of men may be confirmed in their own resolutions, and the most thriftless may be mended, by the precept and example exhibited in this fine old ballad.

THE CHILDREN IN THE WOOD.

'The Children in the Wood' is of a mournful and harrowing nature, and is perhaps the most artless and pathetic ballad in the language. The scene of the tragedy—for a tragedy it is, and a deep one—is laid in Norfolk, and is well known by the name of the 'Norfolk Gentleman's Last Will and Testament.' "It seems," says Percy, "to have been taken from an old play, entitled 'Two lamentable Tragedies:' the one of the murder of Maister Beech, a chandler in Thames-street; the other of a young child murdered in a wood by two ruffians with the consent of the uncle. Our ballad-maker has strictly followed the play in the description of the father's and mother's dying charge; in the uncle's promise to take care of their issue; his hiring two ruffians to destroy his ward, and one of them relenting, and a combat ensuing. Whoever compares the play with the ballad will have no doubt but the former is the original; the language is far more obsolete, and such a vein of simplicity runs through the whole performance, that, had the ballad been written first, there is no doubt but every circumstance of it would have been received into the drama." The Bishop may be right; but it is unsafe to form conclusions respecting the antiquity of a ballad from its language: a poem when once written and printed is a fixed thing, both in sentiment and spelling; but a ballad, while it is oral, is liable to every change which the language takes, and is obliged to accept every modification which the wit or the presumption of the rimer may choose to bestow on it.

The ballad begins by desiring all parents to lay up the words of the story in their hearts, and be warned by its mournful conclusion. A gentleman of Norfolk and of good account lay sick and like to die; his wife lay in the same condition beside him, and nothing molested their last moments save two babes they were about to leave behind them:—

> "The one a fine and pretty boy,
> Not passing three years old;
> The other a girl more young than he,
> And framed in beauty's mould.
>
> The father left his little son,
> As plainly doth appear,
> When he to perfect age should come,
> Three hundred pounds a-year."

To their little daughter Jane they in like manner bequeathed five hundred pounds in gold, to be paid on her marriage-day; and added the fatal clause, that, if the children chanced to die, the whole should go to the uncle. To this person the expiring father addressed these moving words:—

> "Now, brother, said the dying man,
> Look to my children dear;
> Be good unto my boy and girl,
> No friends else have they here.
>
> To God and you I recommend
> My children dear this day;
> But little time, be sure, we have
> Within this world to stay.
>
> You must be father and mother both,
> And uncle all in one;
> God knows what will become of them
> When I am dead and gone.
>
> With that bespake their mother dear;
> O brother kind, quoth she,
> You are the man must bring our babes
> To wealth or miserie."

The false guardian appeared to be much moved at this, and when his brother and sister had kissed, with lips growing pale and cold, their weeping children, he said, "I pray you have no fears; may God neither prosper me nor mine if I wrong these sweet ones!" He was probably at this moment half sincere.

> "The parents being dead and gone,
> The children home he takes,
> And brings them straight unto his house,
> Where much of them he makes.
>
> He had not kept those pretty babes
> A twelvemonth and a day,
> But for their wealth he did devise
> To take them both away."

This resolution was no sooner formed than it was carried into execution. In these days, for the story is undoubtedly a very old one, there were not wanting in England villains of a breed accustomed to shed blood privately at a small price, nor places in which it could be done without dread of discovery: he bargained with two ruffians to carry the two children from his house under pretence of taking them to London, and murder them in one of those woods with which the country was then covered:—

"Away then went those pretty babes,
Rejoicing at that tide,
Rejoicing with a merry mind,
They should on cock-horse ride.

They prate and prattle pleasantly,
As they rode on the way,
To those that should their butchers be
And work their lives' decay."

The prattle of these little ones made those who undertook to murder them think of mercy; but one of them had a scruple of conscience: he had been paid largely, he said, and he could not think of leaving his work undone; the babes must die: the other perhaps did not put his inclination to mercy into a more courteous shape than an oath; but he was a man of action, and, drawing his sword, went to strife with his comrade on the question whether the children should be stabbed or starved: the advocate of starvation succeeded:—

"And he that was of mildest mood
Did slay the other there,
Within an unfrequented wood:
The babes did quake for fear."

Having disposed of his fellow-ruffian, the milder wretch took the children by the hands, and, while tears stood in their eyes, led them deep into the forest, bidding them sternly not to cry, but stay there till he came back with bread from town. The verses which intimate their distressful wanderings are the most touching in our language:—

"These pretty babes with hand in hand
Went wandering up and down;
But never more could see the man
Approaching from the town.

Their pretty lips with blackberries
Were all besmear'd and dyed;
And when they saw the darksome night,
They sat them down and cried.

Thus wander'd these poor innocents,
Till death did end their grief;
In one another's arms they died,
As wanting due relief.

No burial this pretty pair
Of any man receives,
Till Robin Redbreast piously
Did cover them with leaves."

This tenderness, true or poetic, has been of vast use to Robin Redbreast and his whole posterity: no schoolboy molests his nest, and he brings out his young ones in the most public places, protected by the memory of the mercy shown to the poor Babes in the Wood. The cruel uncle was now master of an inheritance for which he had bartered his hopes in the other world; but Heaven forbade the enjoyment of it in this, even for a few brief years:—

"And now the heavy wrath of God
Upon their uncle fell;
Yea, fearful fiends did haunt his house,
His conscience felt a hell.

His barns were fired, his goods consumed,
His lands were barren made,
His cattle died within the field,
And nothing with him stay'd."

Even the sea performed its part in the drama of retribution: his two sons perished in a voyage to Portugal; want came on him; he pledged or mortgaged all his lands; and at last found refuge in that sad sanctuary the gaol, where he died, after having heard that the "ruffian of milder mood," judged to die for highway robbery, had exposed the guilt alike of master and man. "O you," thus concludes the minstrel, "that are guardians of little children—of helpless innocents—take example by what befel in this true narrative; love mercy and deal justly,

"Lest God with such-like misery
Your wicked minds requite."

LITTLE MUSGRAVE.

The ballad of 'Little Musgrave' commences in right simplicity. "It fell out," says the minstrel, "on a high holiday, of which there are numbers in the year, that many young men and maidens went to matins and to mass; all, however, did not go with a pure heart.

"Little Musgrave came to the church door,
The priest was at the mass;
But he had more heed of the fair women
Than he had of our Ladye's grace.

And some of them were clad in green,
And others were clad in pall;
And there came in Lord Barnard's ladie,
The fairest among them all."

It would seem that Little Musgrave and this handsome dame had been acquainted of old, and that her notions of honour were unsettled and loose; she was won without a word:—

"She cast an eye on Little Musgrave,
As bright as the summer sun;
O then bethought him, Little Musgrave,
This lady's heart I have won.

Quoth she, I have loved thee, Little Musgrave,
Full long and many a day;
And so have I loved you, ladye fair,
Yet word durst I never say."

The sacredness of the spot where this conversation took place exercised no power over either the inclination or the tongue of the lady. "I have a handsome bower," she whispered, "at Bucklesford-bury, and when you are there you will not find its lady inhospitable."—"I thank you for your kindness, lady," whispered the other; "and be it for my weal or woe, there shall I be to-night." On this they separated.

"All this beheard a little foot-page
By his lady's coach as he ran;
Quoth he, Though I am my lady's page,
Yet I'm Lord Barnard's man.

My Lord Barnard he shall know of this,
Although I lose a limb;
And ever whereas the briggs were broke,
He laid him down to swim."

The page was soon at the castle of his lord. "Arise," he cried, "Lord Barnard, an thou art a man; for this same night Little Musgrave will be with my lady at Bucklesford-bury."

"It it be true, thou little foot-page,
This tale thou hast told to me,
Then all my lands in Bucklesford-bury
I freely will give to thee.

But an it be a lie, thou little foot-page,
This tale thou hast told to me,
On the tallest tree in all Bucklesford-bury
High hanged shalt thou be."

The baron rose, armed himself, summoned all his merry-men, and, mounting his horse, exclaimed to his wondering adherents, "I must be to Bucklesford-bury to-night; God wot, I had never more need!" On their way some of his followers sang and whistled, and some said aloud, "When the horn of Lord Barnard is heard, Little Musgrave will up and be gone." Of the coming of the avenger Musgrave seems to have had a sort of presentiment:—

"Methinks I hear the throstle-cock,
Methinks I hear the jay,
Methinks that I hear Lord Barnard's horn;
I would that I were away.

Lie still, lie still, thou Little Musgrave,
  And keep me from the cold;
For it is but some shepherd's boy
  A-whistling his sheep to the fold."

The lady listened for a moment, and turned upon him reproachfully. "Thy hawk is on the perch, thy horse saddled beside his corn, and I am with thee; and yet thou wouldest be gone." Her recklessness contrasts strangely with her lover's fears:—the punishment of both was at hand.

"By this Lord Barnard was come to the door,
  And lighted upon a stone;
And he pull'd forth three silver keys,
  And open'd the doors each one."

He then entered the chamber of the guilty pair, exclaiming, "How now, then, Little Musgrave, dost thou find my lady's company pleasant?"—"That she is sweet," replied the other, "I shall prove to my grief; I would give three hundred pounds to be free on yonder plain."—"Arise, arise," cried Lord Barnard impatiently; "arise and dress yourself: it shall never be said that I killed an unarmed man."

"I have two swords in my chamber,
  Full mickle they cost my purse;
And thou shalt have the best of them,
  And I will have the worse.

The first stroke that Little Musgrave struck,
  He hurt Lord Barnard sore;
The next stroke that Lord Barnard struck,
  Little Musgrave never struck more."

It seems that while this combat took place the lady lay still; but she was not an unconcerned spectator:—

"With that bespoke the lady fair,
  In the bed whereas she lay,
Although thou art dead, my Little Musgrave,
  Yet for thee will I pray.

And wish well to thy soul will I,
  So long as I have life;
So will I not do for thee, Barnard,
  Though I am thy wedded wife."

These words exasperated her lord to frenzy; he had still his sword in his hand, and with it he struck her a blow which brought, says the minstrel, her life's blood trickling to her knees. This piteous sight moved his heart, and deep remorse succeeded:—

"Wo worth, wo worth ye, my merry-men all,
  You never were born for good;
Why did you not offer to stay my hand
  When you saw me wax so wood?

For I have slain the ae fairest knight
  That ever rode on a steed;
So have I slain the fairest ladye
  That ever wore woman's weed."

The reproach of Lord Barnard was not without reason. His merry-men, as we have seen, had sung and whistled, and even shouted, as they approached Bucklesford-bury, with the evident intention of warning their lady of her husband's coming; and that they stood idly by and allowed him in a moment of just indignation to deprive her, however wanton and shameless, of life, must surprise every one as much as it incensed their lord. When he saw no better might be, Lord Barnard gave directions for the immediate burial of the unfortunate pair:—

"A grave, a grave, Lord Barnard cried,
  To put these lovers in;
But lay my ladye o' the upper hand,
  For she comes of the better kin."

The Friar of Orders Gray.

From this domestic tragedy we gladly turn to 'The Friar of Orders Gray,' a ballad in which the strain is more polished and the termination happier. It was written by Bishop Percy; but it owes some of its charms to the ballad of 'The Gentle Herdsman.' This latter strain commences by a pilgrim inquiring the way to the shrine of Our Lady of Walsingham: "The way," replied the Gentle Herdsman, to whom the words were spoken, "is hard to win, for the paths are crooked, and the distance great."—"Were the distance doubled thrice, and the ways ever so dangerous," answered the Pilgrim, "it would not be enough for my offence, it is so grievous."—"Thou art young, and thy face is fair to look on," said the Herdsman; "surely time hath not yet allowed thee leisure to commit a sin at all heinous?"—"I am not what I seem," replied the Pilgrim; "I am a woman; I scorned the love of the gentlest and worthiest youth of the land; he pined and died for love of me. I have put on this pilgrim's weed; I fast and I pray, and when I have relieved my burthened heart at the shrine of Our Lady I will seek out some lonesome place and die for my love, since my love died for me. Now, Gentle Herdsman, ask no more, but show me the way to Walsingham."—"Go thy ways," replied the other; "and may God go with thee: turn down that dale, and take the right-hand path. So fare thee well, fair Pilgrim."—The ballad of Percy may be regarded as the second part of 'The Gentle Herdsman.' In this poem Percy has embodied many of the snatches of old songs and legendary rhymes which are found in Shakspere; and he has done this with surpassing skill.

"It was a Friar of Orders gray
  Walk'd forth to tell his beads;
And he met with a lady fair,
  Clad in a pilgrim's weeds.

Now, Christ thee save, thou reverend friar,
  I pray thee tell to me
If ever at yon holy shrine
  My true love thou didst see?

And how should I know your true love
  From many another one?
O by his cockle-hat and staff,
  And by his sandal shoon."

There were other marks, however, by which the lady remembered her true love; he was handsome and young, with curling locks of a flaxen colour, and eyes bright and blue. The friar replied:—

"O lady, he is dead and gone!
  Lady, he is dead and gone!
And at his head a grass-green turf,
  And at his feet a stone.

Within these holy cloisters long
  He languish'd and he died,
Lamenting of a lady's love,
  And plaining of her pride.

There bore him, barefaced on his bier,
  Six proper youths and tall,
And many a tear bedew'd his grave
  Within yon kirk-yard wall."

This circumstantial detail about death and burial seemed almost too much for the fair inquirer. She broke out:—

"And art thou dead, thou gentle youth,
  And art thou dead and gone;
And didst thou die for love of me?
  Break, cruel heart of stone.

O weep not, lady, weep not so,
  Some ghostly comfort seek;
Let not vain sorrow rive thy heart,
  No tears bedew thy cheek.

O do not, do not, holy friar,
  My sorrow so reprove,
For I have lost the sweetest youth
  That e'er won lady's love."

The friar regarded her with eyes which witnessed for the emotions with which he heard these mournful confessions; and when she proceeded to assure him that, as she had only desired to live for the sake of her lover, so now for him she wished to die,—the friar tried to soothe her with sentiments conveyed in simple and affecting imagery:—

"Weep no more, lady, weep no more,
  Thy sorrow is in vain,
For violets pluck'd the sweetest showers
  Will ne'er make grow again.

Our joys, as winged dreams, do fly;
Why then should sorrow last?
Since grief but aggravates thy loss,
Grieve not for what is past."

"Tell it not to me, holy friar," said the lady, "that grief but aggravates my loss; since one I so dearly loved died for my sake, is it not meet that he should be mourned for in tears?"

"And will he ne'er come again,
Will he ne'er come again?
Ah! no, he 's dead and laid in his grave,
For ever to remain.

His cheek was ruddier than the rose,
The comeliest youth was he!
But he is dead and laid in his grave,
Alas! and woe is me!"

The friar on this changed his tone, and strove to persuade the fair mourner that no reliance could be placed in anything of this world, and that the vows of man were as fickle as the wind—as changing and unsteady:—

"Sigh no more, lady, sigh no more,
Men were deceivers ever;
One foot on sea and one on land,
To one thing constant never.

Hadst thou been fond, he had been false,
And left thee sad and heavy;
For young men aye were fickle found
Since summer trees were leafy."

"I pray thee, friar," said the young lady, "speak not so injuriously of my true love; he had the truest of all hearts; he was all truth." She then renewed her lamentations:—

"And art thou dead, thou much-lov'd youth,
And didst thou die for me?
Then farewell, home; for evermore
A pilgrim will I be.

But first upon my true-love's grave
My weary limbs I 'll lay,
And thrice I 'll kiss the grass-green turf
That wraps his breathless clay."

"Stay awhile," thus remonstrated the friar; "remain under the shade of the cloister-walls; hear ye not how sharply the cold wind comes through the hawthorn hedge; and feel ye not the rain beginning to fall?"—

"O stay me not, thou holy friar,
O stay me not, I pray;
No drizzly rain that falls on me
Can wash my fault away."

The friar felt now that he had dissembled long enough; he laid his hand on the lady's arm, staying her in her walk to the churchyard, and spoke words of unlooked-for consolation:—

"Yet stay, fair lady, turn again,
And dry these pearly tears;
For see, beneath this gown of gray
Thy own true love appears."

The friar proceeds to assign reasons for the religious habit which he wears, and for preferring a sanctified life within holy walls to the occupation of the grave in the churchyard, with a turf at his head and a stone at his feet:—

"Here forced by grief and hopeless love,
These holy weeds I sought;
And here, amid these lonely walls,
To end my days I thought.

But haply, for my year of grace
Is not yet pass'd away,
Might I still hope to win thy love,
No longer would I stay."

The lady's heart was too full to indulge any longer in dissembling; she heard with pleasure of the unexpired year of her lover's noviciate, and resolved to bind him with vows of a tenderer kind than those required for the cloister:—

"Now, farewell grief, and welcome joy
Once more unto my heart;
For since I 've found thee, lovely youth,
We never more shall part."

This gentle and happy ending is in the true spirit of chivalry and love, though much unlike the stern and tragic conclusions in the general run of ballads.

The Spanish Lady's Love.

A west of England tradition says that the ballad of 'The Spanish Lady's Love' had its origin in an adventure which one of the Popham family had in Spain in the time of Queen Elizabeth. In the storming of a city the lady became a captive: her picture and pearl necklace were long to be seen at Littlecot in Wilts, the seat of the Pophams. A Staffordshire legend makes the same claim in behalf of Sir Richard Levison of Trentham, a distinguished naval officer in the days of the Armada, and who was at the attack on Cadiz; but this legend has neither portrait nor necklace to support it, and points in vain to his effigy in brass in the church of Wolverhampton. The ballad, however, may tell its own story:—

"Will you hear of a Spanish Lady,
How she woo'd an Englishman?
Garments gay, as rich as may be,
Deck'd with jewels she had on.
Of a comely countenance and grace was she,
And of birth and parentage of high degree."

Though the minstrel refrains from saying how this lady happened to become prisoner to the English knight, he fails not to inform us that she fell in love with him; and when public orders came for the release, without ransom, of all the Spanish ladies on whom the chance of war had fallen, she alone was sorrowful, and desired to continue in a bondage which, to her heart, was pleasing:—

"Gallant captain, show some pity
To a lady in distress;
Leave me not within this city,
For to die in heaviness.
Thou hast set this present day my body free,
But my heart in prison still remains with thee."

"Lady," replied he, "how canst thou love a man who is the foe of thy country? Thy fair words throw doubts on thy sincerity." "Oh! no," she said, "I am sincere:—

"Blessed be the time and season
That you came on Spanish ground;
If our foes you may be termed,
Gentle foes we have you found.
With our city you have won our hearts each one;
Then to your country bear away what is your own."

"Refrain from tears, I pray you, fair one," said the Englishman, "and think no more of me; you will find lovers, and store of them: Spain abounds in handsome cavaliers." "That is true," replied the lady; "but the Spaniards are a fierce and jealous people; while Englishmen are found to be kind by the whole world: so—

"Leave me not unto a Spaniard,
You alone enjoy my heart;
I am lovely, young, and tender,
Love is likewise my desert.
Still to serve thee day and night my mind is press'd;
The wife of every Englishman is counted blest."

"I would not be permitted," replied the soldier, "to take a lady with me from Spain: it is forbidden by the chiefs of our army; it would bring disgrace upon me: it may not be done." "O! it can be done, and that easily," replied the lady. "I shall change my dress, and go with you in the disguise of a page." As she said this, she looked anxiously in his face: he was moved: he knew not well what to urge against her romantic proposal: he tried poverty:—

"I have neither gold nor silver,
To maintain thee in this case;
And to travel is great charges,
As you know, in every place."
"My chains and jewels, every one shall be thy own,
And the five hundred pounds in gold that lies unknown."

"Since neither the fears of poverty nor of land-travel can daunt thee," said the Englishman, "think of the dangers of the sea: you little know how rough the passage is. Should a storm arise, what would become of you?" "Well and truly may I say," was her answer, "that the sea has no terrors for one ready to lay down her life for love;" and a gleam of hope lightened her face as she spoke. It would have spoiled a fine ballad, but it would have been more generous, had the knight given his real reason for refusal at the outset:—

"Courteous lady, leave this fancy,
Here comes all that makes the strife;
I in England have already
A sweet woman to my wife.
I will not falsify my vow for gold or gain,
Nor yet for all the fairest dames that live in Spain."

At this unlooked-for downfall of all her hopes the fair Spaniard neither tore her hair, nor screamed, nor drummed on the floor with her morocco slippers, nor raged, nor raved, nor swooned, nor shed a tear; she conducted herself in a way as delicate as it was high-souled:—

"O! how happy is that woman
That enjoys so true a friend!
Many happy days God send her;
Of my suit I make an end.
On my knees I pardon crave for my offence,
Which did in love and true affection first commence."

The Englishman was silent, but he could not well be unmoved at this: it is to be hoped he raised her from the ground while she continued to address him:—

"Commend me to thy lovely lady,
Bear to her this chain of gold;
And these bracelets for a token,
Grieving that I was so bold.
All my jewels, in like sort, take thou with thee,
For they are fitting for thy wife, but not for me."

As she said this she took the chain of gold from her neck, unclasped her bracelets, and, laying them at his feet, said, "I will give my body to a nunnery, and my future days to prayer; and the burthen of my prayers will be for you and your beloved lady:—

"Thus farewell, most gallant captain,
Farewell too my heart's content;
Count not Spanish ladies wanton,
Though to thee my love was bent.
Joy and prosperity go still with thee!"
"The like fall ever to thy share, most fair ladie!"

THE NUT-BROWN MAID.

If the ballad of 'The Nut-brown Maid' has a happier conclusion than 'The Spanish Lady,' it offends our feelings more sensibly during the progress of the narrative. Prior says the poem is 300 years old: it is that, at least, now: we know of no copy older than the one in Arnold's 'Chronicle,' printed about the year 1520. But if no antiquarian has hitherto settled its age, it is as certain that no family legend lays claim to 'The Nut-brown Maid;' no tradition has localised the ballad; and no poet has been named as its author. The hero of the tale says he is son of the Earl of Westmoreland, and we must take his word for it.

The minstrel begins by saying that woman's inconstancy is the common complaint of men who are unacquainted with the nobleness of her nature and her warmth and fidelity of attachment: to show that she loves as strongly as she loves truly, he instances 'The Nut-brown Maid,' and opens the scene by a moonlight interview with her lover, who comes with a feigned tale of sorrow and disaster to prove her constancy. He states his case clearly:—

"It standeth so, a deed is do,
Whereof great harm shall grow;
My destiny is for to die
A shameful death, I trow,—
Or else to flee,—the one must be,
None other way I know;
But to withdraw, as an outlaw,
And take me to my bow.
Wherefore, adieu, my own heart true!
None other rede I can;
For I must to the greenwood go,
Alone, a banish'd man."

"Ah!" replied the Nut-brown Maid, "what is human joy? It is as changeable as yon moon; no sooner light than it is dark. But let Fortune change as she will, I shall not falter: we part not thus." "It is all in vain," said her lover; "I must go where woman will prove too tender a comrade." This does not alarm her:—

"Now sith that ye have show'd to me
The secret of your mind;
I shall be plain to you again,
Like as ye shall me find.
Sith it is so that ye will go,
I will not stay behind;
Shall never be said the Nut-brown Maid
Was to her love unkind.
Make you ready, for so am I,
Although it were anon;
For in my mind, of all mankind
I love but you alone."

"Take good heed," said he, "lest people should not call this love, but wantonness. Rather than your purity should be suspected, I would go alone to the wild wood, and live as I best may."

"Though it be sung by old and young
That I should be to blame,
Theirs be the charge that speak so large
In hurting of my name.
For I will prove that faithful love,
It is devoid of shame;
In your distress and heaviness
To part with you the same.
And sure all tho' that do not so,
True lovers are they none;
For in my mind, of all mankind
I love but you alone."

"Alas!" said the lover, "you know not what you offer: banishment is a sad destiny: the savage woods have no painted ceilings, neither are holland sheets in their bowers. What is the comfort of wild fruits and cold water, to one accustomed to spiced meats and choice wine? Besides, you will have to bend a bow, learn to live under the greenwood tree, and be in continual terror of wild animals and wilder men." A faithful heart is not easily daunted: she replies—

"'Mong the wild deer, such an archere
As men say that ye be,
We may not fail of good vitall
Where is so great plentie.
And water clere of the rivere
Shall be full sweet to me;
With which right hele I shall right wele
Endure, as ye shall see.
And ere we go, a bed or two
I can provide anon;
For in my mind, of all mankind
I love but you alone."

"That is not all, nor yet the worst," answered he; "you must cut these fine tresses close by your ears, your rich kirtle close by the knee: you must bear my bow and carry my arrows, ay, and be ready at once to go to the greenwood with one for whose head much gold is offered."—"I am ready," she said; "but O! my mother, I fear for you: what will you think of her whom you nursed so tenderly! But daylight is at hand; you will be discovered; so let us fly."—"Nay, nay," thus he interposed; "you are, I fear, a light-o'-love; soon hot, soon cold: as ye have said to me, so would ye, I dread, offer to others."

"If ye take heed, it is no need
Such words to say to me,
For oft ye pray'd, and long assay'd,
Or I you loved perdie.
And though that I of ancestry
A baron's daughter be,
Yet have you proved how I have loved
A squire of low degree.
And ever shall what so befal,
To die therefore anon;
For in my mind, of all mankind
I love but you *alone*."

He replies with the greatest composure to these touching words, in which she asserts her love and faith :—

"A baron's child to be beguil'd!
It were a cursed deed—
To be fellawe with an outlaw!
Almighty God forbid!
Yet better were the poore squire
Alone to forest yede,
Than ye should say, another day,
That by my cursed deed
Ye were betray'd: wherefore, good maid,
The best rede that I can
Is that I to the greenwood go
Alone, a banish'd man."

"For whatever befals me," replied the maid, "I shall not upbraid you; but if you go and leave me behind, then truly may I look upon myself as forsaken and betrayed. If you are so unkind, I have nothing left to do but lie down and die on the spot where you leave me." The lover now changes his system of persuasion, and assigns reasons for her remaining at home, which would have been sufficient for any lady of our days :—

"If that ye went, ye should repent,
For in the forest now
I have purvey'd me of a maid
Whom I love more than you:
One far more fair than ever ye were,
I dare it well avow;
And of you both, each should be wroth
With other, as I trow;
It were mine ease to live in peace,
So will I if I can;
Wherefore I to the wood will go
Alone, a banish'd man."

Now, it is the opinion of all poets, save Prior and the writer of this ballad, that no lady who respected her own character, who had any sense of true delicacy, or inherited that honest pride which, like a divinity, keeps women from folly, would have listened for a moment to an insult such as this. The Nut-brown Maid, instead of resenting his perfidy and turning from him with scorn and loathing, humbly offers to go halves with this lady of the greenwood, and be kind and courteous.

"Though in the wood I understood
Ye had a paramour,
All this may nought remove my thought
But that I will be your:
And she shall find me soft and kind,
And courteous every hour,
Glad to fulfil all that she will
Command me to my power.
For had ye, lo! an hundred mo
Of them, I would make one;
For in my mind, of all mankind
I love but you alone."

The lover had now proved to the uttermost the faith and affection of the maid. His proud birth, which he had hitherto kept concealed, and his high and honourable intentions disguised in his simulated tale of poverty and banishment, were now to be told; and he tells them with a brevity uncommon to the rest of the composition :—

"Mine own dear love, I see thee prove
Faithful, kind, and true;
Of maid and wife, in all my life,
The best that I ever knew.
Be merry and glad, be no more sad,
The case is changed newe;
For it were ruth, that for your truth
Ye should have cause to rue.
Be not dismay'd, whatever I said
To you when I began;
I will not to the greenwood go,
I am no banish'd man."

"Ah!" exclaimed the maid, an unbeliever in her turn, "were I sure these words were true, I would be happier than a queen: but men have recourse to many wiles when they desire to break their promises and vows: if that be so, then my situation is worse than it would have been with my love in the greenwood, and I am but the more wretched." He interrupted her :—

"Ye shall not need no more to dread,
I will not disparage
You, God defend, sith ye descend
Of so great lineage.
Now understand, to Westmoreland,
Which is mine heritage,
I will you bring, and with a ring,
By way of marriage,
I will you take and lady make
As shortly as I can:
Thus have you won an earl's son,
And not a banish'd man."

"Now," said the minstrel, as he concluded his strain, "have I not proved by example that women in love are meek, kind, and constant? Let us therefore no longer accuse them of being variable, but love them and esteem them. And since we desire that women should be meek and obedient, let us remember our own duty, and obey God and keep his commandments."

WILLIAM OF CLOUDESLIE.

'William of Cloudeslie' is a ballad of rustic chivalry, and relates the adventures of three noted archers and outlaws who dwelt of old in Englewood in Cumberland, defying the king, and shooting and eating his deer. They were men of great resolution, great bravery, and unequalled, save by Robin Hood, with whom they had contended, at the bow. They had high feelings too, were quite unacquainted with fear, and not unaided by the light of letters; for the full success of one of their sternest adventures is made to depend on their ability to write and read.

The exploits of Adam Bell, Clym-o'-the-Cleugh, and William of Cloudeslie, are often alluded to in our old dramas; and in our own days Sir Walter Scott has borrowed and worked upon some of the chief incidents. The ballad is alike popular on both sides of the Tweed. The scene is laid in the spring. "It is merry," says the minstrel, "to live in the forest when the leaves are green and the deer abundant; for then a strong bow, a long arrow, and a skilful hand, furnish a plentiful table." Of this the three yeomen of Englewood were well aware.

"And one of them was Adam Bell,
The other Clym-o'-the-Cleugh;
The third was William of Cloudeslie,
An archer good enough."

They had been outlawed for killing the royal deer; two were single men, but Cloudeslie was married, and his wife Alice and his three children lived in Carlisle, a place of strength, with high walls and a strong castle. Now the green leaves, the clear streams, and the choicest deer, could not hinder the heart of poor Cloudeslie from wandering to his home, and he resolved, contrary to the advice of his comrades, to visit his own fireside.

"He took his leave of his brethren two,
And to Carlisle is he gone,
And there he knock'd at his own window

Where be you, fair Alice, he said,
My wife and children three?
O quickly let in thine own husband,
William of Cloudeslie.

Alas, then! said the fair Alice,
And sighed wondrous sore;
This place hath been beset for you
This full half-year and more."

"Since I am come," replied the outlaw, "I wish I could get in, and when in, get some meat and drink, for I come to be merry." Alice undid the door, placed meat and drink before him, and was happy; for she loved him as she loved her life. These sentiments were not shared by an old cripple woman who lay in a corner, and overheard what passed. She forgot that she had been kept there seven years from charity, and coveted the gold which the capture of her benefactor would bring. She was an impostor as well as mendicant:—

"Up she rose, and away she goes,
Evil may she speed therefore;
For she had set no foot on the ground
For seven years and more.

She went unto the justice-hall
As fast as she could hie:
This night, she said, is come to Carlisle
William of Cloudeslie."

The justice rose rejoicing. "Dame," said he, "thou shalt not have thy labour for nought," and, bestowing on her "a gown of scarlet and grain," he summoned his men, and, surrounding the house of the outlaw, proceeded to force his way in. Cloudeslie heard the heavy tread of armed men in the street, and Alice, looking from a wicket, perceived the sheriff with his band. "Go into my chamber, my husband," she cried, "for there thou wilt be surest." Now the chamber of his wife was a strong room, and, with his sword and bow and his three children, he took refuge there, while Alice with a pole-axe in her hand kept the door, and exclaimed, "The first who comes shall die."

"Cloudeslie bent a right good bow
That was of a trusty tree,
And smote the justice upon the breast,
But his arrow burst in three.

A curse on his heart, said William then,
This day thy coat did on;
For had it been no better than mine,
It had gone near thy bone."

"Yield thee, Cloudeslie," exclaimed the justice, glad of his escape, "and yield also thy bow and thy arrows." "A curse on the heart of him," said the outlaw's heroic wife, "that gives my husband such counsel."

"Set fire to the house, said the sheriff,
Sith it may no better be,
And burn we therein William, he said,
With his wife and children three."

The sheriff's men set fire to the house; the heart of Alice failed when she thought on her children. "Alas!" she said, "and must we all perish?" Cloudeslie opened a back window, lowered his wife and children into the street, and then said to his enemies, "You have now got all my treasure; for Christ's love, do them no harm; work all your vengeance on me." Having said this, he continued to discharge his arrows, till the rising fire burned his bow-string: then, with a sword in one hand, his buckler in the other, he leaped into the street, and few lived who withstood him.

"There might no man abide his strokes,
So fiercely on them he ran;
But they threw windows and doors on him,
And took that good yeoman."

"Now," cried the sheriff, "Cloudeslie, thou shalt be hanged at last. Shut the gates of Carlisle, and see that no man enter: then make a pair of new gallows, and let me see if Clym-o'-the-Cleugh, or Adam Bell, or even the devil himself, who has cared for thee so long, shall take thee out of my hand." Now it happened that a little boy, who kept the town's swine, saw the gallows erected, and inquired who it was for. "For a good yeoman," replied a sympathizing Cumbrian, "called William of Cloudeslie." "I shall away," muttered the boy, and began to run as he spoke—"I shall away and tell this to Adam Bell and Clym-o'-the-Cleugh, and hear what they say to it." He found those bold outlaws pursuing their calling:—

"Alas, then! cried the swineherd boy,
Ye tarry here all too long;
Cloudeslie is ta'en and doom'd to death,
And ready for to hong.

Alas, then! said good Adam Bell,
That ever we saw this day;
Cloudeslie had better have tarried with us,
As often we did him pray.

He might have dwelt in the green forest,
Under the shadows green,
And have kept both him and us at rest,
Out of all trouble and teen."

As he said this he bent his bow, slew a fat buck, and added, "There, child, take that for thy dinner, but bring me mine arrow, for ere long I shall need it. We go to redeem Cloudeslie, or die in the attempt." When they reached Carlisle they found the gates shut, and a resolute porter within:—

"Up then bespake him Clym-o'-the Cleugh,
A wile through will us bring:
Let us say we be two messengers
Straight come now from our king.

Said Adam, I have a letter written,
So let us wisely worke:
We will say we have the king's own seal;
The porter I hold no clerke."

They went boldly up, and beat loudly on the gates, at which the porter marvelled, and exclaimed, "Who are you that make all this din?" "We be messengers from our king," said Clym-o'-the-Cleugh, in a tone of authority. "False porter!" exclaimed Adam Bell; "here is the royal letter: let us pass on to the sheriff, that we may the sooner return to our king:"—

"Here cometh none in, said the porter,
By him that died on tree,
Till a false thief be hanged high,
Call'd William of Cloudeslie.

Then up and spake he Clym-o'-the-Cleugh,
And swore by Mary free,
If thou keep us a moment more without,
Like a thief hang'd shalt thou be."

The porter undid the gates, and as he bowed, hat in hand, to the imaginary seal of the king, they wrung his head about, tossed him into a hole, seized on his keys, and spake merrily:—

"Now I am the porter, said Adam Bell,
See Clym, the keys are here;
The one worst porter to merry Carlisle
They have had this hundred year.

Then they bent there their good yew bows
And look'd their strings were sound,
And the market-place of merry Carlisle
They beset in that stound."

There they saw the gallows prepared, the justice with his "quest of squires" who had condemned their comrade, with Cloudeslie himself on a hurdle, bound hand and foot, a rope round his neck, while over him the shadow of the tall gibbet fell. He looked up and he looked around, but saw no comfort near; yet his soul was undaunted and free:—

"The justice call'd to him a lad:
Cloudeslie's clothes shalt have;
So take the measure of yond yeoman,
That thou mayest make his grave.

I have seen as great marvel, said Cloudeslie,
As between this and prime,
That he who maketh a grave for me
May lie himself therein."

This augury was soon to be fulfilled. Two arrows from the bows of Adam Bell and Clym-o'-the-Cleugh settled all earthly accounts with both sheriff and justice; the citizens fled in terror; while Cloudeslie, on his bonds being cut, wrung by main force a poleaxe from the hands of one of his guards, and spared none who stood in his way. "These three," says the old ballad-maker, "fought like hardy men and bold: many a gallant soldier they overcame, and moistened the feathers of their shafts in many a gallant heart:—

"Then was the out-horne of Carlisle blown,
 The bells backward did ring,
And many a mother there cried Alas!
 And wives their hands did wring.

Then came the mayor arm'd, all in haste,
 With a poleaxe in his hand,
And many a strong man with him was,
 There in that stoure to stand."

All opposition was in vain: though the mayor fought stiffly, and cried, as with his axe he clave Cloudeslie's buckler, "Keep fast the gates there; we shall have them," he was overmastered; the wicket was gained; the three gallant outlaws passed forth unhurt; and Adam Bell, locking the postern, exclaimed:—

"Have here your keys now, mayor of Carlisle,
 Mine office I here forsake;
And if ye go by my counsel,
 A new porter ye will make.

He threw the keys then at their heads,
 And bade them well to thrive,
And all that letteth a good yeoman
 To come and comfort his wife."

When William of Cloudeslie and his comrades arrived at their haunts in Englewood, they found Alice weeping with her children. The meeting was rapturous. "Now," said she, "my heart is free from woe, since thou art safe." "Dame," replied Cloudeslie, "forget not in thy joy to thank my two brethren." "How you talk!" said Adam Bell, who loved not to hear even of his best deeds; "the meat on which we must all sup is yet running afoot." The supper ran not long afoot. But as they sat feasting under the forest-tree, Cloudeslie suddenly started up: "We have done a bold deed and a brave one," he said; "yet we are not sure the king will accept the slaughter of a sheriff and a justice, and a score or two of citizens, as good service. Let us hurry to London, and obtain our pardons before the tale of our exploits is related by unkinder lips than our own." No sooner said than done. They hastened to court, knelt before the king, told their names, and sued for pardon. "Ye be false thieves," said the king, "and I vow to God ye shall be all hanged." Cloudeslie arose and said, "My liege, we came to you freely; all we ask is to pass freely—pass with our bows in our hands out of London; and should you live a hundred years, we will ask no further grace." "You speak boldly," said the king: "And I think," said the queen, "Cloudeslie speaks well. Your majesty promised me the first boon I should ask—I ask it now—the lives of these three yeomen. What gallant guardsmen they would make!" "It is granted, madam," replied the monarch. "You might have had towers and towns for the asking, and all you have desired is the lives of three north-country thieves. Go wash, fellows, and dine—I admit you into my guard—you are freely pardoned." This was spoken in good time, for it was hardly uttered till tidings came of the death of the sheriff and the justice, and the slaughter of many good citizens, and his majesty discovered that he had not only pardoned, but admitted into his body-guard, three outlaws—

"Alas, for ruth! then said our King:
 My heart is wondrous sore;
I had liefer than a thousand pounds
 I had known of this before;

For I have granted them grace,
 And that forthinketh me:
But had I known all this before,
 They had been hang'd all three.

The King he open'd the letter anon,
 Himself he read it through,
And found how these outlaws had slain
 Three hundred men and mo.

First the justice, and the sheriff,
 And the mayor of Carlisle town;
Of all the constables and catchpoles
 Alive were 'scant' left one:

The bailiffs and the beadles both,
 And the sergeants of the law,
And forty fosters of the fee,
 These outlaws had yslaw:

And broke his parks and slain his deer;
 Of all they chose the best:
So perilous outlaws as they were
 Walk'd not by east or by west.

When the King his letter had read,
 In his heart he sighed sore:
Take up the tables anon he bad,
 For I may eat no more."

The King then appointed a shooting-match, in which failure of success against his archers was to be followed by the death of the outlaws.

"The King's bowmen busk them belyve,
 And the Queen's archers also;
So did these three wyte yeomen;
 With them they thought to go.

There twice or thrice they shot about
 For to assay their hand;
There was no shot these yeomen shot
 That any prycke might stand.

Then spoke William of Cloudeslé;
 By him that for me died,
I hold him never no good archer
 That shooteth at butts so wide.

At what a butt now would ye shoot?
 I pray thee tell to me.
At such a butt, sir, he said,
 As men use in my country.

William went into a field,
 And with him his two brethren:
There they set up two hazel rods
 Twenty score paces between.

I hold him an archer, said Cloudeslie,
 That yonder wand cleaveth in two.
Here is none such, said the King,
 Nor no man can so do.

I shall assay, sir, said Cloudeslie,
 Or that I farther go.
Cloudeslie with a bearing arrow
 Clave the wand in two.

Thou art the best archer, then said the King,
 Forsothe that ever I see.
And yet for your love, said William,
 I will do more mastery."

We have then the story of cleaving an apple on a child's head. This is a tradition frequently repeated, and the reader will not fail to recur to the instance of William Tell:—

"I have a son is seven year old,
 He is to me full dear;
I will him tie to a stake;
 All shall see that be here;

And lay an apple upon his head,
 And go six score paces him fro,
And I myself with a broad arrow
 Shall cleave the apple in two.

Now haste then, said the King,
 By him that died on a tree;
But if thou do not as thou hast said,
 Hanged shalt thou be.

And thou touch his head or gown
 In sight that men may see,
By all the saints that be in heaven,
 I shall hang you all three.

That I have promised, said William,
  That I will never forsake.
And there even before the King
  In the earth he drove a stake,

And bound thereto his eldest son,
  And bad him stand still thereat,
And turned child's face him fro,
  Because he should not start.

An apple upon his head he set,
  And then his bow he bent:
Six score paces they were meten,
  And thither Cloudeslie went.

There he drew out a fair broad arrow,
  His bow was great and long;
He set that arrow in his bow,
  That was both stiff and strong.

He pray'd the people that were there,
  That they all still wold stand,
For he that shooteth for such a wager
  Behoveth a steadfast hand.

Much people pray'd for Cloudeslie,
  That his life saved might be,
And when he made him ready to shoot
  There was many weeping eye.

But Cloudeslie cleft the apple in two,
  His sonne he did not see.
Over Gods forbode, said the King,
  That thou should shoot at me."

The king is again reconciled to himself for having pardoned them, and promises Cloudeslie "eighteen-pence a-day," to which the queen adds "thirteen-pence." His two companions are made yeomen of the queen's chamber; his son, "tender of age," promoted to a place in the king's cellar, and his wife to be

"chief gentlewoman
To govern the nursery,"

by the queen. The ballad concludes by informing us that "they dwelled with the king, and died good men all three.

"Thus endeth the lives of these good yeomen;
God send them eternal bliss;
And all that with an hand-bow shooteth
That of heaven may never miss. Amen."

ROBIN GOODFELLOW.

Robin Goodfellow, the Robin Hood of the invisible world, cared for no sheriff's power, and sued for no king's grace, yet he had to answer for more lawless deeds than all the outlaws of England. To his love of merriment all the laughable distresses of man and woman were attributed; and to his love of mischief all the evil for which no mortal author could be found was at once set down: the loiterer on an errand of mercy; the slothful in household labours; the wife who forgot her duty to her husband; the husband who mistook his neighbour's bed for his own; the shepherd negligent of his flock; the ploughman cruel to his horses; or the dairy-maid who neglected her cows or her churn, were all alike amenable to the laws of this domestic deity; and their punishment, sometimes severe and always ludicrous, took place in the sight of all. Yet, though Robin was here and there, and everywhere, he was always invisible. Milton, it is imagined, had once a glimpse of him, when he—

"Stretch'd out all the chimney length,
  Bask'd at the fire his hairy strength;"

and some of our northern peasants assert that they have seen, when ten men's tasks were invisibly wrought, a hairy hand, an unearthly head, and heard a portentous laugh, which either belonged to the Brownie, or to no else. As he has never sat to any one for his portrait, we must turn to his actions; and of these no one has given so good an account as himself, in the ballad which bears his name.

This strain is entitled, in the old black-letter copies, 'The Merry Pranks of Robin Goodfellow.' It is very old, and the author is unknown. It begins by Robin, in imitation of other heroes, claiming a high rank for the chief to whom he performs the part of prime minister: he declares he is sent from Fairy Land by King Oberon, to work his will and execute his laws on earth; and, above all, to make sport and merriment. For this he is well fitted: he moves like lightning; nothing escapes the quickness of his sight; and his chief delight lies in misleading those who are returning home from graceless visits:—

"Sometimes I meet them like a man,
  Sometimes an ox, sometimes a hound;
And to a horse I turn me can,
  To trip and trot about them round:
But if to ride, my back they stride,
  More swift than wind away I go;
O'er hedge and lands, through pools and ponds,
  I whirry, laughing Ho, ho, ho!"

"Besides," continues Robin, "when lads and lasses are merry over their possets and junkets, I slip among them unseen, and eat their cakes and sip their wine; and when they wonder at the quick decrease, I blow out the candles, kiss the maids, and laugh to hear them cry 'Ho! what rough lip is this?'"

"When house or hearth doth sluttish lie,
  I pinch the maidens black or blue;
The bed-clothes from the bed pull I,
  And lay them naked all to view.
'Twixt sleep and wake I do them take,
  And on the clay-cold floor them throw:
If out they cry, then forth I fly,
  And loudly laugh out Ho, ho, ho!"

"Yet," said he, "when I wish to please the maids, I card their wool while they sleep; I spin their flax; I grind flour in the hand-mill; I dress their hemp, and trim the house; and when one of the rosiest awakens and would catch at me, away I bolt with a laugh, which arouses the whole household. But, when I find sluttish and unthrifty queans who love idleness and gossiping, I set them together by the ears, and leave them scratching and scolding:"—

"When men do traps and engines set
  In loop-holes where the vermin creep,
Who from their folds and houses get
  Their ducks and geese, their lambs and sheep,
I spy the gin, and enter in,
  And seem a vermin taken so;
But when they there approach me near,
  I leap out, laughing Ho, ho, ho!"

His employment is however now and then more poetic than that of pinching sluttish maids, or thrashing at night a ten-men's task, or supping the curds and cream which the dairy-maid had prepared in secret for a lover who wooed for cake and pudding:—

"By wells and rills in meadows green
  We nightly dance our hey-day guise;
And to our fairy king and queen
  We chant our moonlight minstrelsies:
When larks 'gin sing, away we fling,
  And babes new-born steal as we go,
An elf in bed we leave instead,
  And wend us, laughing Ho, ho, ho!"

Robin Goodfellow was once a spirit in extensive employment. The printing-machine has expelled him from the imaginations as well as from the houses of men, over which he held rule since Merlin was born of a hag, and fiends and ghosts haunted darksome and suspicious places—a period laid down by himself, and to which the historian of things shadowy can find no objection, since it rests solely on belief.

THE BEGGAR'S DAUGHTER OF BETHNAL GREEN.

If the Printing-press has expelled the Fairies from this material world, the Police, which marches side by side with the Printing-press, has not banished the beggars. This is a class which belongs to the real present as well as to the shadowy past. Prose and Poetry equally claim them. The Hall of Chivalry and the House of Correction each offers them its various hospitalities. Charles Lamb, in his witty, and as humane as witty, 'Complaint of the Decay of Beggars in the Metropolis,' has noticed the story of one of the most celebrated of beggars, whose tale we are about to tell.

"The Blind Beggar in the legend, the father of pretty Bessy, whose very doggrel rhymes and ale-house signs cannot so degrade or attenuate but that some sparks of a lustrous spirit will shine through the disguisements—this noble Earl of Cornwall (as indeed he was), and memorable sport of fortune, fleeing from the unjust sentence of his liege lord, stripped of all, and seated on the flowering green of Bethnal, with his more fresh and springing daughter by his side, illumining his rags and his beggary—would the child and parent have cut a better figure doing the honours of a counter, or expiating their fallen condition upon the three-foot eminence of some sempstering shop-board?"

The rhymes of the old ballad (which dates from the days of Queen Elizabeth) are indeed somewhat "doggrel," but they nevertheless have the force of simplicity about them, and are not to be despised.

"It was a blind beggar, had long lost his sight,
He had a fair daughter of beauty most bright;
And many a gallant brave suitor had she,
For none was so comely as pretty Bessee.

And though she was of favour most fair,
Yet, seeing she was but a poor beggar's heir,
Of ancient housekeepers despised was she,
Whose sons came as suitors to pretty Bessee.

Wherefore in great sorrow fair Bessy did say,
Good father and mother, let me go away
To seek out my fortune, whatever it be.
This suit then they granted to pretty Bessee.

Then Bessy, that was of beauty so bright,
All clad in gray russet, and late in the night,
From father and mother alone parted she;
Who sighed and sobbed for pretty Bessee."

Bessy went on her solitary way, and arrived at Stratford-le-Bow, and so on to Romford, where she was entertained at the Queen's Arms, where the master and mistress became her friends, and the young men of Romford were all "at her commandment."

"Four suitors at once unto her did go;
They craved her favour, but still she said no;
I would not wish gentles to marry with me;
Yet ever they honoured pretty Bessee.

The first of them was a gallant young knight,
And he came unto her disguis'd in the night;
The second a gentleman of good degree,
Who wooed and sued for pretty Bessee.

A merchant of London, whose wealth was not small,
He was the third suitor, and proper withal:
Her master's own son the fourth man must be,
Who swore he would die for pretty Bessee."

They each proffered her all that was grand and fine, but she had one answer:—

"Then Bessee she sighed, and thus she did say,
My father and mother I mean to obey;
First get their good will, and be faithful to me,
And you shall enjoy your pretty Bessee.

To every one this answer she made,
Wherefore unto her they joyfully said,
This thing to fulfil we all do agree,
But where dwells thy father, my pretty Bessee?

My father, she said, is soon to be seen,
The seely blind beggar of Bednall Green,
That daily sits begging for charity,
He is the good father of pretty Bessy.

His marks and his tokens are known very well,
He always is led with a dog and a bell;
A seely old man, God knoweth is he,
Yet he is the father of pretty Bessee.

Nay, then, quoth the merchant, thou art not for me:
Nor, quoth the innholder, my wife shalt thou be;
I loath, said the gentle, a beggar's degree,
And therefore adieu, my pretty Bessee!

Why then, quoth the knight, hap better or worse,
I weigh not true love by the weight of the purse;
And beauty is beauty in every degree,
Then welcome unto me, my pretty Bessee."

The knight carried off his fair prize, and he bore her to Bethnal Green, but the young men of Romford came after to contend against the happy suitor. The knight's kinsmen were there to rail upon her:—

"Then spake the blind beggar, Although I be poor,
Yet rail not against my child at my own door;
Though she be not deck'd in velvet and pearl,
Yet will I drop angels with you for my girl;

And then, if my gold may better her birth,
And equal the gold that you lay on the earth,
Then neither rail or grudge you to see
The blind beggar's daughter a lady to be."

They dropped "angels" against the beggar, but he won all, and gave all to the knight as his bride's portion:—

"Thus was fair Bessy match'd to the knight,
And then made a lady in others' despite:
A fairer lady there never was seen
Than the blind beggar's daughter of Bednall Green."

The second 'Fit,' or Part, of the ballad tells the history of the wedding:—

"Within a gorgeous palace most brave,
Adorned with all the cost they could have,
This wedding was kept most sumptuously,
And all for the credit of pretty Bessy."

All the talk was of the blind beggar's wealth, but the old man was not there:—

"Then spake the nobles, Much marvel have we,
This jolly blind beggar we cannot here see.
My lords, quoth the bride, my father's so base,
He is loth with his presence these states to disgrace.

The praise of a woman in question to bring,
Before her own face, were a flattering thing;
But we think thy father's baseness, quoth they,
Might by thy beauty be clean put away."

No sooner said but the beggar arrived: he had a dainty lute in hand, to which he sang this strain:—

"A poor beggar's daughter did dwell on a green,
Who for her fairness might well be a queen:
A blithe bonny lass and a dainty was she,
And many one called her pretty Bessee.

Her father he had no goods nor no land,
But begg'd for a penny all day with his hand;
And yet to her marriage he gave thousands three,
And still he hath somewhat for pretty Bessee.

And if any one here her birth do disdain,
Her father is ready, with might and with main,
To prove she is come of noble degree,—
Therefore never flout at pretty Bessee."

The lords and the company laughed outright; but the beggar again sang that he was the son of Sir Simon de Mont fort, and lost his eyes at the battle of Evesham. A baron's fair daughter took pity on him, and for 40 years he lived "a silly blind beggar:"—

"Now, when the fair company every one
Had heard the strange tale in the song he had shown,
They all were amazed, as well they might be,
Both at the blind beggar and pretty Bessee.

With that the fair bride they all did embrace,
Saying, Sure thou art come of an honourable race,
Thy father likewise is of noble degree,
And thou art well worthy a lady to be.

Thus was the feast ended with joy and delight:
A bridegroom most happy then was the young knight,
In joy and felicity long lived he,
All with his fair lady, the pretty Bessee."

SCHOOLS.

By the Rev. Dr. Beard.

The education supplied by primary schools may be considered as embracing not only that of young children, but that of the children of the poor in general. The consideration of it involves the whole matter of what is generally termed "Popular Education," comprising the Sunday-school, the Day-school, and the Infant-school.

The theory of the English church establishment supposes that the youth of the country are directly or indirectly under the care of the clergy for the purposes of education; and there was a period in which none but the clergy were engaged in the business of instruction. Owing to various circumstances, however, combined with the increase of population and the spread of dissent, the very scanty provision made for the education of the people became insufficient for that purpose, so that towards the end of the last century an opinion became prevalent of the urgent necessity both for the extension and the improvement of the means for the education of poor children. The result was the commencement in England of a series of efforts which have led both here and abroad to the most beneficial results.

Raikes, of Gloucester, is generally considered the founder of Sunday-schools, but other persons preceded him in the benevolent effort to make the Sunday subservient to the education of neglected children. The Rev. Theophilus Lindsey, shortly after he had taken possession of his vicarage of Catterick in Yorkshire, in 1763, employed in this way a portion of each Sunday. Mrs. Cappe, in her 'Autobiography,' says, "At two o'clock, before the commencement of the afternoon service, Mr. Lindsey devoted an hour alternately to catechising the children of the parish and to expounding the Bible to the boys of a large school to the number of about 200. After evening service Mr. Lindsey received different classes of young men and women in his study for the purpose of instruction; and Mrs. Lindsey, in like manner, in another apartment, had two classes of children, boys and girls alternately" Mrs Cappe, wife of the Rev. Newcome Cappe, of York, then Miss Harrison, "endeavoured," she observes in her Life, "to imitate at Bedale the example which I so much admired at Catterick. I established a sort of Sunday-school there, collecting together a number of poor children, whom I assisted in learning to read, giving them books, &c., teaching them Dr. Watts's shorter catechism, together with his devotional hymns, and endeavouring to give them such general instruction as might enable them to read their Bible with more intelligence. I had no place in which to receive them but the back kitchen, which being small we were exceedingly crowded; but they grew attached to me, and liked to attend; and in order to prevent confusion, I divided them into classes, which succeeded each other; so that on the Sunday I was occupied by a succession of children nearly the whole day, except the time which was spent at church"

In the year 1769 a Sunday-school was commenced by Miss Ball at High Wycombe, Bucks. She was a lady of great piety, and very earnest in doing good. Her custom was to assemble as many as 30 or 40 children on Sunday morning, in order to hear them read the Scriptures and repeat the Catechism and the Collect, preparatory to going to church.

The idea of Sunday instruction was communicated to Mr. Raikes by the Rev. Mr. Stock, curate of St. John's, Gloucester. The following is Mr. Stock's own account, in a letter dated February 2, 1788:—"Mr. Raikes, meeting me one day by accident at my own door, and in the course of conversation lamenting the deplorable state of the lower classes of mankind, took particular notice of the situation of the poorer children. I had made, I replied, the same observation, and told him, if he would accompany me into my own parish, we would make some attempt to remedy the evil. We immediately proceeded to the business, and, procuring the names of about 90 children, placed them under the care of four persons for a stated number of hours on the Sunday. As minister of the parish, I took upon me the principal superintendence of the schools and one third of the expense. The progress of this institution through the kingdom is justly to be attributed to the constant representations which Mr. Raikes made in his own paper (the 'Gloucester Journal') of the benefits which he perceived would probably arise from it." The following is a copy of the inscription on a handsome marble monument, erected several years ago in the chancel of the parish church of St. John the Baptist by a subscription of the inhabitants of the parish, written by the Rev. F. T. Bailey, the present rector and Mr. Stock's successor:—"In memory of the Rev. Thomas Stock, A.M., rector of this church, who first suggested the institution of Sunday-schools, and, in conjunction with Mr. Robert Raikes, established and supported the four original Sunday-schools in this parish and St. Catharine's in 1780. He died December 27th, 1803, and was interred in St. Aldate's church."

Mr. Raikes's views may be gathered from the following paragraph which he inserted in the 'Gloucester Journal' of November 3, 1783:—"Some of the clergy in different parts of this county, bent upon attempting a reform among the children of the lower class, are establishing Sunday-schools for rendering the Lord's-day subservient to the ends of instruction, which has hitherto been prostituted to bad purposes. Farmers and other inhabitants of the towns and villages complain that they receive more injury in their property on the Sabbath than all the week besides; this in a great measure proceeds from the lawless state of the younger class, who are allowed to run wild on that day, free from every restraint. To remedy this evil persons duly qualified are employed to instruct those that cannot read; and those that may have learned to read are taught the Catechism and conducted to church. By thus keeping their minds engaged the day passes profitably and not disagreeably. In those parishes where this plan has been adopted we are assured that the behaviour of the children is greatly civilised. The barbarous ignorance in which they had before lived being in some degree dispelled, they begin to give proofs that those persons are mistaken who considers the lower orders of mankind as incapable of improvement, and therefore think an attempt to reclaim them impracticable, or at least not worth the trouble." For nearly 30 years Raikes survived to witness the growing effects of his benevolent undertaking.

The "National Schools"* took their rise from the impulse given by Dr. Andrew Bell. He was a native of St. Andrew's, in Scotland. After having gone through his studies at the university of that place, and taken holy orders in the English church, he proceeded to the East Indies as a chaplain in the East India Company's establishment. Becoming superintendent of the Male Asylum at Madras he was struck with the Hindu mode of writing in sand, and other peculiarities in tuition, which on his return to England he made known by several publications. The advantages of the methods which he recommended were ultimately acknowledged, and the system was adopted; but a similar project having been set on foot by Joseph Lancaster, a controversy arose, which eventually led to the formation of two societies, namely, the National Society, and the British and Foreign School Society, the former of which is chiefly supported by the Church Establishment, and is designed to further popular education in connexion with teaching the doctrines of the English Church; the second, which is chiefly supported by dissenters, allows education to all whose parents are willing that their children's instruction should be based on the Bible. Dr. Bell, after having been rewarded with honours and emoluments in the church, died at Cheltenham, January 28th, 1832, bequeathing 120,000*l.* for the encouragement of literature and the advancement of education.

Joseph Lancaster, born in 1771, was a member of the Society of Friends. His father was a soldier in the foot-guards. Moved by a benevolent feeling towards the neglected children that surrounded his father's residence in the Borough Road, Southwark, he opened a school for their benefit, and obtaining a room without cost from his father he fitted it up at his own expense, and before he was 18 years of age had 90 children under his care. This was in 1798, a period of scarcity as well as of general ignorance; and necessity prompted him to make experiments in education, with a view to economy in teaching. He early attracted the attention of the Duke of Bedford; and in 1805 was honoured by an audience on the part of George III., who on this occasion expressed the memorable words, "I wish that every poor child in my dominions may be able to read his Bible." Being a conscientious dissenter, he declined flattering overtures of worldly advantages which could be enjoyed only by his joining the established church. From 1807 to 1811 he travelled in the kingdom nearly 7000 miles, and lectured to nearly 50,000 persons; and thus he gave a great impulse to elementary education. In 1812 he attempted to establish a school for children of opulent parents; but he became insolvent, and in 1818 emigrated to the United States, where he was well received. In this country he rendered much service to education, but the effect of his labours was lessened by his want of prudence. In 1829 he visited Canada, and was honourably welcomed. The parliament of Lower Canada voted him several grants for educational purposes. Again he experienced great pecuniary difficulties, but some of his old friends united to purchase for him a small annuity. He died at New York, on the 23rd of October, 1838, having essentially contributed to the establishment of the system of mutual instruction in most parts of the civilised world, under the name in England of "Lancasterian Schools," and under the patronage of the British and Foreign School Society.

Infant-schools are designed to prevent evil, by training young children in the practice of virtue, and in the acquisition of knowledge, particularly in those cases in which the parents from their occupation are unable, or from their disposition are unwilling, to take proper care of their offspring. At present, having been found of great service in the humbler ranks of society, they are slowly extending themselves among the middle classes. The infant-school system makes the school-room into a nursery and playground, in which virtue, intelligence, and love preside, direct the movements, and regulate and foster the emotions. The scholars are instructed while they play, and learn to associate pleasurable feelings with their school pursuits.

The real founder of Infant-schools appears to have been the Pastor Oberlin, who appointed conductrices in each commune of the Ban de la Roche, and paid them at his own expense: he also procured rooms where children from two to six years old might be instructed and amused. ('Journal of Education,' vol. i. p. 367, &c.) An infant-school (Bewahrschule) was also founded in Germany by the Princess Pauline of Lippe-Detmold, at Detmold, in 1802, for children from one to four years of age.

If Mr. Owen was the first Englishman to establish an infant-school on a large scale, and for definite purposes—and certainly the school which he founded at New Lanark in Scotland at least ranks among the earliest—he was aided in forming the idea by the wife of the Rev. William Turner, of Newcastle-on-Tyne, who in the year 1818, in conversation with Mr. Owen, remarked that she had frequently wished some means could be adopted for getting poor children taken out of the hands of their parents at an earlier age, before they had formed bad habits at home and among the idle children around them. Much was said on both sides on the desirableness of infant-schools, which Mr. Owen immediately established on his return to Lanark. Great credit is also due to Lord Brougham for the interest which he manifested, and the valuable aid which he gave, in the establishment of infant-schools. Mr. Wilderspin has however laboured more than any other person, and with more success, in the founding of these institutions, and in perfecting their discipline.

To no one, however, can the impulse which has been given to early education be so justly ascribed as to Pestalozzi, whose labours were characterised by an earnestness which was the result of a profound conviction, and who has infused into education his own enlightened views and benign spirit.

Henry Pestalozzi was born at Zürich in 1745, of respectable parents. Having lost his father at an early age he was left to the care of his mother, who was extremely poor. Eccentricity seems to have been a marked feature in his early character, which was distinguishable rather for kindness and gentleness than strength of intellect. A deep dissatisfaction with existing modes of education, resulting from his own reflections, was increased by the study of the 'Emile' of Rousseau. This work confirmed him in the pursuit of what may be termed educational truth, and gave a stimulus to his inquiries; but it gave him no positive knowledge, except that of his own ignorance, and of the prevalent ignorance on the subject. A severe illness, the result of the intense action of his mind, ended in bringing him to a fixed determination to abandon himself, as his biographer terms it, "to the education of Providence." He apprenticed himself to a farmer: in due time he became master of a tract of waste land, applied himself to its cultivation, became interested in a cotton-manufactory, and was, by the experience which he acquired in going through these concerns, convinced that the prevailing system of popular education was not fitted to prepare men either for the duties or the enjoyment of life. He resolved on an educational experiment. He selected his pupils from the very dregs of the people. His establishment was converted into an asylum, where 50 poor children were provided with food, clothing, and instruction. His object was national, and he desired to show the state how the poor might be taught to instruct and improve themselves; and hence one of his great principles—self-education. His plan was defeated, but not without having been attended with beneficial results to upwards of 100 poor children, and a great increase of experience to himself, which he communicated to the world in several instructive works. After many difficulties, Pestalozzi, with the aid of government, entered on another educational experiment, under circumstances of the most unfavourable nature both within and without the establishment. Deprived of all the ordinary supports of authority, he threw himself on the power of love in the children's hearts, as the only available means of securing obedience. The effect corresponded to the expectation of the teacher. The whole of his school apparatus consisted of himself and his pupils. How was he to teach them? At last, after many trials and failures, he was led to teach them by word of mouth instead of books, by realities instead of signs.

A war broke up his establishment. His mind and circumstances were embarrassed, and ridicule assailed him. But he persevered, and became an assistant in a dame-school. A wider sphere however opened out before him. The Swiss government gave him a small pension, and an empty castle, which contained rooms enough, but hardly anything else. He set to work, and the school at Burgdorf was soon a scene of activity, in which teacher and disciples were trained as well as children. But he had offended the aristocratical canton of Bern by his liberality, and he was obliged to remove into the Canton de Vaud. Here, at the castle of Yverdon, he had nothing but bare walls and beautiful scenery. Yet even this soon became a busy and a happy spot, for he made his school a Christian family, in which persons of all ages, of all ranks, and of the most opposite character, were united by the unaffected love of Pestalozzi. But he was more fitted to theorise and originate than to work out his own ideas: his last establishment fell to pieces for want of a proper director. He died at the age of 80, after having reaped no other reward for his labours than his own inward satisfaction.

If the conviction were universal that the children of the poor ought to be educated, the devising of a suitable method of instruction would be comparatively easy. Undoubtedly those who admit the utility and necessity of educating the poor are a large, a powerful, and an increasing body. But even of those who take part in the promotion of popular education, there are many who act rather from compulsion than choice; who would not advance the cause if they could retain their social influence without doing so, and who consequently must not be expected to do more for it than their own party interests may seem to require. And if, on the one side, there is a large body of persons who wish to educate the people because it is for the general interest that they should be educated, and from the assurance that there is no evil which may not be feared from ignorance, and no good which may not be anticipated from a well-educated community; there is on the other side a considerable number of persons who desire to resist the diffusion of popular education. "It is impossible," says the assistant poor-law commissioner, Edward Twisleton, Esq. (*Reports on the Training of Pauper Children*, 1841), "to shut one's eyes to the fact that a certain portion of the upper and middling classes harbour a rooted distrust of any plan for the education of the poor. In discharge of my ordinary duties I have often had an opportunity of seeing this feeling manifested in an undisguised form. . . . . Amongst many small farmers and some of the gentry, unwillingness to educate the poor is openly defended by argument; and a merchant of a seaport town gravely assured me, not long ago, that an agricultural labourer was very little above a brute, and that to educate him would merely have the effect of rendering him dissatisfied with his situation in life."

A correct description of what the advocates of popular education mean by that term would be the best answer to many current objections, and the general tenor of these observations may perhaps do something to that end. Many persons confound education with instruction, whereas instruction is only an instrument in education. Education is the leading out, the unfolding, the training of all the human faculties under such an instrumentality and with a view to such ends as the capacity of each individual, his position in society, opportunities, and prospects may justify or require; and it seems difficult to understand how such a discipline can be injurious either to the individual himself or to society. Experience however has decided this question. The authority whose words have just been given emphatically declares "there is reason to believe that half the pauperism and crime which prevails in the world arises from the corruption of stagnant ignorance and from defective moral and religious training, and that to remove and remedy these causes of vice is the only expedient which affords the least prospect of success for promoting the moral health of the rising generation." The following quotation is from the Report of the Inspector of National Schools, the Rev. Edward Field (*Twenty-ninth Report of the National Society for* 1840, p. 141):—"Let it not be forgotten, that the persons most actively employed in the agricultural riots of 1830 were uneducated and ignorant in the last degree. From two adjoining parishes in Wilts, fifteen agricultural labourers, I was told, were at that time transported for life. It cannot, I fear, be doubted that the materials for such an explosion yet remain in some of the rural parishes of Dorset and Wilts. Those materials are poverty and ignorance, which may again, whenever the match is applied by artful and designing men, spread waste and terror through the land. At present, in the parishes alluded to, the poor labourers know not (and how without instruction should they know?) either how to better their condition or to bear it. On the occasion of the last assizes the following important and valuable remarks are reported to have been addressed by Judge Coleridge in his charge to the Grand Jury at Devizes:—'Having disposed of the calendar, he would now advert to a subject connected with the county. He had before him a comparative table of the committals in the different counties in England from 1834 to the present time; and he found that in Wiltshire in 1834 there were 384 committals, and that in 1839 there were 428. This was not a very large increase, considering the increase of population; but still it would have been more pleasing to have found a decrease. He had then looked to see in what manner these parties had been educated, and he found that out of the whole 428 only 32 could read and write well. This spoke negatively pretty strongly in favour of education. It was not therefore an unfair inference, that, if they increased the amount of education, they might probably diminish the number of those who made small attempts on the property of others. There were 250 who could read and write imperfectly, *but reading and writing imperfectly was no education at all*; they could read their Bible to very little effect; a very large proportion must be in the very beginning of education. This showed how desirable it was to advance the sound and religious education of the poorer classes.' Such remarks from such a quarter must help to shake the prejudices which still unhappily remain in some places against the education of the poor."

There is also most valuable testimony in 'Evidence of employers of labourers, on the influence of training and education on the value of workmen, and on the comparative eligibility of educated and uneducated workmen for employment,' given in the 'Report to the Poor Law Commissioners on the Training of Pauper Children,' 1841. Albert Escher, one of the firm of Escher, Wyss, and Co., of Zurich, employing from six to eight hundred men in their machine-making establishment at Zurich; employing also about 200 men in their cotton-mills there, and about 500 men in their cotton-manufactories in the Tyrol and in Italy, these men being of different nations, Swiss, Germans, French, English, Scotch, &c., states, "As workmen only, the preference is due to the English, because they are trained to special branches; as men of general usefulness, I should prefer the Saxons, because they have had a very careful general education, which has rendered them fit to take up any employment to which they may be called. . . . The Scotch get on much better on the Continent than the English, which I ascribe chiefly to their better education, which renders it easy for them to adapt themselves to circumstances. Knowing their own language grammatically, they have good facility in acquiring foreign languages. They have a great taste for reading, and always endeavour to advance themselves in respectable society, which makes them careful of their conduct and eager to acquire such knowledge as may render themselves acceptable to better classes. . . . . The Dutch are, like the English, quite specially trained, but their education is not of a very high order, but very sound, and decidedly superior to the English. It is an education in which economy and domestic and public respectability of conduct are particularly enforced; and we have found them to be particularly honest, economical, orderly, and trustworthy men. . . . The English are in conduct the most disorderly, debauched, and unruly, and least respectable and trustworthy of any nation whom we have employed (and in saying this I express the experience of every manufacturer on the Continent to whom I have spoken, and especially of the English manufacturers, who make the loudest complaints). These characteristics of depravity do not apply to the English workmen who have received an education, but attach to the others in the degree in which they are in want of it. Refinement produced by education would be beneficial to workmen, for in the present state of manufactures, when so much is done by machinery and tools, and so little by mere brute labour, mental superiority, system, order, punctuality, and good conduct—qualities all developed by education—are becoming of the highest consequence. . . . The uneducated English workmen at Zurich were so disagreeable as lodgers, having such disorderly and bad habits, spoiling the rooms, emptying vessels out of the windows, offending people in the streets, contravening the police regulations, that they found it difficult to get lodgings, and are obliged to pay more for them. Some of the best description of the English workmen—one of the most superior, to whom we gave 5*l.* a-week wages, had so lowly bred a family (he came from Oldham, where they are notorious for want of education) that his salary scarcely sufficed for his expenses—do not take so high a standing as foreign workmen who only receive 50*l.* a-year. . . . I invariably find that the best educated of our workmen live in the most respectable manner at the least expense, or make their money go the farthest in obtaining comforts. Of the English, the educated workmen are the only ones who save money out of their very large wages." The most educated of our British workmen is a Scotch engineer, who has a salary of 3*l.* a-week, of which he spends about one-half; he lives in very respectable lodgings; he is always well dressed; he frequents reading-rooms; subscribes to a circulating library, purchases mathematical instruments, studies German, and has every rational enjoyment. We have an English workman, a single man, also of the same standing, who has the same wages, also a very sober person; but as his education does not open to him the resource of mental enjoyment, he spends his evenings and Sundays in wine-houses, because he cannot find other sources of amusement which presuppose a better education, and he spends his whole pay. . . . What pilfering we detect among our workpeople is invariably amongst the class which is lowest in education."

Joseph Kempson, of Philadelphia, cotton-manufacturer, states that they do not like to take English workmen in the New England factories, because they are so dissipated and discontented. They are noted as the greatest drunkards in the country, and are much worse educated than Americans of the same class. Schools in the United States are encouraged, because they are regarded as of the greatest importance to the welfare of the community. William Fairbairn, Esq., of Manchester, states that a preference is always given to workmen who have received the best education; that in all questions respecting wages the best educated are the most reasonable in their demands and the most peaceable in their behaviour; and that the educated are more sober and less dissipated than the uneducated. Another employer, who had provided schooling for upwards of 200, stated in private conversation that at first the expenditure was given chiefly from a desire to make the people happy; but he subsequently found that, had it all been done simply as an investment of capital, it would have been a highly profitable one; adding, that he would not as a pecuniary speculation take less than 7000*l.* for his set of workmen, upwards of 800, in exchange for the uneducated and uncultivated workmen of another manufacturer opposite.

The Select Committee of the House of Commons on Education, 1838, declared that "to the neglected education of the children of the working classes in populous places is to be chiefly attributed the great increase of criminals, and consequently of cost to the country." From returns to parliament the committals for crime in England and Wales were in

1805	4,600	1836	20,984
1810	5,100	1837	23,612
1815	7,800	1838	23,094
1821	13,000	1839	24,443
1828	16,500	1840	27,187
1832	20,090		

That is, in 20 years (from 1810 to 1832) the committals increased fourfold, while the population increased only 32 per cent. The increase in 1840, as compared with 1839, was 11·22 per cent., a large increase, especially when it is considered that it follows an increase of 5·8 per cent. in the preceding year.

The following very important evidence on the effects of knowledge and ignorance was given before the Educational Committee, 1838, by John Corrie, Esq., a magistrate residing near Birmingham, and chairman of the West Bromwich Union:—

"At the time the Union was made, the returns of the population of the West Bromwich Union were 34,000, grounded on the census of 1831, and I believe there are now upwards of 40,000.

"From what little experience I have had as a magistrate and as chairman of the Union, I should say that education for the humbler classes is greatly wanted, lamentably wanted.

"There is very little education of any sort; that which there is is of the most elementary kind—reading and indifferent writing: most of those (and especially the young) who come before the magistrates, and before the Union Board, are unable either to read or write; they have no knowledge of moral obligation, or very little; many of them have never been at any place of worship.

"The neglect of any education, moral and religious, is the source of much crime and cost to the country in consequence, and to the district in which they live.

"I have no conception of any other means of forcing civilization downwards in society except education; there is a slight surface of civilization; those in certain circumstances have a little education, but the mass have none."

In answer to the following question, "Do you not think that, if a tolerable education were provided for the humbler classes, they would be more likely to enter into those provident societies which have been so much spoken of lately; savings' banks and benefit societies, for providing against sickness and those other calamities which are incident to the situation of the poor?"—he says, "The educated classes have the benefit of all the recorded experience of the past to guide them: these poor people have no recorded experience; their own feelings, or the little experience of their fathers and mothers, is all they have to guide them."

And to the question, "Do you think it would be beneficial to them, and that they would be much more likely to enter into these provident societies, supposing the means of education were afforded?" he replies, "I have no doubt on the subject whatever."

Dr. J. P. Kay, 1841, thus speaks of the effect of education on pauper children: "Ignorant of all that is good, but trained and practised in all evil; unintellectual, debased, and demoralized, the work of instruction and reformation sometimes appeared almost hopeless. But the rapid improvement of the children under a system of religious and moral teaching and of industrial training; their general decency of deportment; the proofs they afford of the influence of sound principles; and the apparent state of comfort in which they live—the simple result of cleanliness, discipline, and regularity—attracted observation, and are now beginning to excite a feeling of jealousy out of doors."

It is only very recently that correct notions respecting the actual state of popular education in this country have begun to prevail; and even now, in cases where its deficiency in amount is acknowledged, there often exist very erroneous opinions of its value. These false ideas are to be mainly attributed to the fact that no means have existed by which a knowledge of the general state of education could be acquired. The statistics of education are quite a recent study; and even now, although something has been done by Parliamentary Committees, by "The Manchester Statistical Society," and other similar institutions, by "The Central Society of Education," and by the "Committee of Council on Education," still there are no means by which exact information on this subject can be obtained with respect to the country at large; and all that can be done is to present some facts ascertained in relation to particular places, from which a rude idea of the general condition may be deduced, and to make a rapid review of the quality of the education that is given.

The Parliamentary Committee on Education (1838) state it as their opinion, that as regards the children of the working classes it would be desirable to give education to them from the age of three to thirteen; deducting from this number all the children of the rich or middle classes, they conclude that daily school education should be provided for one-eighth of the population. They proceed to report that in five parishes in London, situated along the Strand and round Charing-Cross, "some sort of daily instruction is afforded to about one in fourteen of the population, instead of one in eight." In Bethnal Green, they state, "there are from 8000 to 10,000 children for whom no means of daily instruction are provided. In that parish thousands are growing up uninstructed in their duty to God or man. . . . In this populous parish less than one in twenty are under daily education." They furnish Table A in Appendix.

In regard to the most important of the places mentioned in the preceding table, the details are worked out to other interesting results in Table B, taken from the same Report.

The Christian Instruction Society caused a district in London, near Barbican, to be visited, which contains 4577 children, of whom 3299 were not receiving any education whatever. Another district examined by the agents of the London City Mission contained 812 children under twelve years of age, and of that number only 65 were receiving education. They have stated generally also, that in thirty-four districts they found many thousands who went to neither day nor Sunday-schools; and that they found 2744 adults who confessed that they could not read a letter. In the parish of Bethnal Green, out of 14,000 children, 4820 were educated, whilst 9180 had no daily education; and, deducting the children who are receiving an education which scarcely deserves the name, there are less than 3000 who are properly instructed. By Table C it appears that in the four places to which it relates there are 32,697 children between five and fifteen years of age not attending any school whatever.

The agricultural districts are no better provided with the means of education. In the county of Kent the Central Society of Education caused eight parishes near Maidstone to be investigated, and they report that, of 262 children above fourteen, 111 can neither read nor write; that, of 1300 children under fourteen years of age, 728 did not go to school; of these 728, 372 only attended day-schools; 513 children are returned as playing in the streets. In the Tendring Union, in the county of Essex, out of 706 children only 88 could read and write, and not more than 109 frequented a day-school. Of 2140 children in the Hay Union, in Herefordshire, 612 only could read and write, and 1038 attended no school. In the locality where, in the year 1838, the fanatic who called himself Sir William Courtenay raised a tumult which ended in the loss of his own life and the lives of several of his deluded followers —at Herne Hill, out of 45 children above fourteen, only 11 were, on investigation, found able to read and write, and, out of 117 under fourteen, but 42 attended school, and several of these only occasionally; out of these 42, not more than 6 could read and write;—at the villa of Dunkirk no school whatever existed, though it comprised 5000 acres of land, and had a population of 700 persons; at the village of Boughton, out of 35 children above fourteen years of age, 7 could read and write; of 119 under that age, 32 attended school. In February, 1840, Mr. Seymour Tremenheere, assistant poor-law commissioner, reported on the state of education in that part of Wales in which the Chartists under Frost made a sudden rising; he supplies the following table, which shows the number of common day and dame-schools in each of these parishes respectively; the number of children frequenting them and the proportion they bear to the whole population.

Parishes.	Common Day Schools for the Elementary Education of the Working Classes.	Dame Schools, and Schools for Children of from Two to Five Years of Age.	Total Children attending Day and Dame Schools.	Total Population.
Merthyr . .	15	8	1,322	34,000
Bedwelty .	13	10	825	20,000
Aberystruth	2	4	300	8,000
Trevethin .	13	7	638	16,000
Mynnyddyslwyn . .	4	4	223	7,000
	47	33	3,308	85,000

There is no conflicting evidence in respect to the amount of popular education; all authorities agree in representing it as utterly inadequate. From the Report of the Diocesan Board of Education for Lancashire (1840) it appears that in the Macclesfield district, including a population of 129,541, the number of children educated under the care of the Established Church is not more than 7 per cent. on the gross population; the Liverpool district, including a population of 257,284, it amounts to no more than 6½ per cent.; and in the Manchester district, including a population of 504,672, it falls to 5½ per cent. on the gross population. Returns of children not educated in connexion with the Church are only approximations to the truth. Of the parishes or districts from whence returns have been received, the gross amount of population being ,694,981, it appears that there are—

	Schools.	Scholars.
In connexion with the Church	1725	164,388
Not in connexion with the Church	986	108,083;

being at the rate of rather more than 9 per cent. under education in connexion with the Church, and of rather more than 6 per cent. under education in schools unconnected with the church. It must be remarked that these returns include schools of all kinds; and that the proportion per cent. would have been very much less if the number had been given of those only who receive daily education. The Diocesan Report for the Diocese of Peterborough (1840) speaks thus—

'The Board has also ascertained that there is a lamentable deficiency in the amount of church-education, both daily and Sunday, for the poorer classes. Thus, in Leicester only one seventeenth of the population, as calculated according to the census of 1831, is receiving instruction from national or other parochial schools in any direct and recognised connexion with the Church. A like deficiency is seen to exist in other places of a smaller size and population, as *e. g.* in one parish of 6191 inhabitants the proportion of children receiving church-education to the whole population is one-seventeenth; and in others as follows:—

Population.	Proportion.	Population.	Proportion.
2402	one-twenty-second.	942	one-seventeenth.
2174	one-tenth.	726	one-fourteenth.
2017	one-twentieth.	627	one-sixteenth.
1638	one-sixteenth.	545	one-eighteenth.
1602	one-sixteenth.	518	one-sixteenth.
1500	one-thirty-fifth.	442	one-seventeenth.
1245	one-seventeenth.	342	one-seventeenth."
1211	one-fifteenth.		

Another circumstance brought to light by the researches of the Board is, that "there are no fewer than eighty parishes, nearly one-third, that is, of those from which the returns have been received, where there is at present no daily church-school for the education of the poor; and amongst these cases there are instances of parishes with 3000, 2000, several of 1000 inhabitants, and from eighteen to twenty with a population varying from 500 to 900.

"Nor must it be supposed that the wide field for education in this county has been filled up by the different denominations of dissenters. Such a supposition would be altogether erroneous; for, although the returns which the Board have received with regard to dissenting schools are not nearly so full and explicit as they could have wished to possess, yet do they nevertheless abundantly warrant this conclusion at least, that three-fourths of such schools are only Sunday-schools, and that there seems to be no machinery whatever among them for any general and regular system of daily instruction."

The Report for the Diocese of Salisbury states "that besides parishes of small population, there are some with a population of above 600 destitute of any school; and a few even much larger, where the education is altogether insignificant; and that above 20,000 children attend Sunday-schools only." The last Report of "The National School Society," in the "extracts" which it gives from applications made to it from all parts of the kingdom, supplies the following and other similar facts:—"Immense educational destitution in this populous parish, 20,000 souls without a single national school:" "The condition of this large parish, now estimated at above 100,000 souls, is, in respect to the want of schools, most deplorable; at least six school-rooms are wanted:" "There is only one small school for the daily education of the poor in the whole parish, containing about 12,000 inhabitants; that school educates about 100. As one result of this neglect, the parish became last year the focus of Chartism; and the most bitter spirit of disaffection still exists among the lower classes:" "The population of the village of which I am the incumbent is not less than 20,000; there is no free-school in the whole place; hundreds of children receive no education whatever:" "I am vicar of a parish which contains a population of 10,000 souls, and I grieve to say there is but one school-room in it:" "Our situation is briefly as follows: the parish contains 1500 souls: there is nothing which can with propriety be called a school; the demoralization and extreme ignorance which prevail among this mass of human beings are truly deplorable; no language of mine can convey any idea of their extent:" "I find a population of 10,000 souls committed to my charge with only one church, and a still smaller school in connexion with the church," &c.

The tests which have been applied to discriminate between the educated and the uneducated are very imperfect and often deceptive. It does not follow, because on a particular day a child is at school, that he remains under instruction a sufficient length of time. Education is a work of years, and few of the children of the poor are kept under instruction as long as is indispensable for the acquiring of the requisite knowledge and the formation of the necessary habits. "In the Borough-road School, London, there are always in attendance from five to six hundred children, and yet that number come in and go out every year, arising either from the shifting of the population or the carelessness of the parents. Now, if the mass of the children are in that school for only one year, and in large country towns only about a year and a half, and in the villages not more than two years, while from that must be deducted times of absence at harvest and other periods, it is evident that the children cannot be for a sufficient time under any influence to derive the necessary benefit, so that there is a vast deal of delusion as to the extent of education in this country." (Henry Dunn, Esq., secretary to the British and Foreign School Society, in his evidence before the Educational Committee." On the same occasion the Rev. J. C. Wigram stated, in relation to the National Schools, that two-thirds of the scholars are constantly fluctuating, and that a master gave him a list of 15 or 16 boys who had been re-admitted above twelve times in the course of the year.

The child who can read is classed among the educated, without its being ascertained whether he has acquired such a skill in and taste for reading as will lead him to pursue his own improvement. It is well known that many who could read in their childhood have lost the ability before they have reached manhood. Mr. Wood, in his evidence before the Committee on Education, declares, "I asked one man the other day, 'Can you read?' 'Yes; I learned to read the Bible at school, but I dinna like to read it now.' Another I asked respecting his reading: he said, 'Yes, I can read;' I said, merely as a test, 'Can you read the Bible?' he said, 'No; I dinna want to read that any more.' 'What is your objection to the Bible?' 'I read it backwards and forwards when I was at school.'"

When writing is added, a less insufficient guarantee is obtained, and the only way to avoid being grossly misled by statistical reports is to rank among the uneducated all who cannot write. But even the ability to write is frequently lost, and it may be retained in connexion with no small degree of ignorance.

The existing schools themselves however must be looked into in order that a just opinion may be formed of the quality of popular education. The Manchester Statistical Society, in their Report on the State of Education in York, remark that, "however imperfect the education received at Sunday-schools may be, when compared with a reasonable or a foreign standard, it affords nevertheless the most valuable training within the reach of the great mass of the industrious population of England." Yet this training extends only to a few hours every week, is given by persons who are generally elevated only a little above their scholars, and whose only valuable recommendation is, that they are in general animated by a benevolent and pious spirit. There are however indirect effects which abate the good of Sunday-schools, particularly in the spirit of sectarianism and bigotry which, as at present constituted, they tend to foster; the undue opinion of themselves which they are apt to engender in the minds of the teachers; the rivalry which they excite and the jealousies which they keep up between different schools; and, above all, the pauperising influence which, more than other charity-schools, they exert on the scholars. Yet there are 750,000 children in England and Wales who have no other opportunity of gaining knowledge. So long indeed as scarcely any other book than the Bible is employed in Sunday-schools, the training which they afford must be very defective, unapproached in its excellence as is that holy book when well understood and rightly used. But an exclusive acquaintance with it is not sufficient to expand the mind and prepare it for the duties of life. Without the aid of other knowledge it is not possible that those distinctions and qualifications should be made which parts at least of the Sacred Scriptures require, and which are rendered necessary by the lapse of ages and the existence of a totally different order of circumstances. If these distinctions and qualifications are not made, the most erroneous conclusions may be drawn from the Bible, and the most unrighteous purposes may appear to receive a sanction from it. The Scottish Covenanters justified their murders by appealing to the severities practised by the Israelites. The German Anabaptists alleged the disinterestedness of the first Christians in sharing their property with the destitute in an emergency, in order to authorise their spoliation of the goods of others. The madman Thom, who called himself Courtenay, appealed to the Bible in support of his delusions. Chartism flourished most vigorously, and in its most offensive form, in cases where the Scriptures were the text-book.

Indeed on inquiry it has been found that many who have gone through the Sunday-school have, in after-life, derived little advantage from the discipline, having forgotten the scraps of religious instruction which had been presented to their memory, and outgrown the bare mechanical ability of reading, which they had more or less imperfectly acquired—perhaps lost also, because not sufficiently impressed on the character, the moral tone and influence which is nearly the only good thing of a decided nature that Sunday-schools in general effect. In regard to the result, the ensuing quotation from the third publication of the "Central Society of Education" may be considered as representing a large class of the scholars: "My name is Thomas Diprose. I live at the village of Ash (Kent). I went to the Sunday-school at Mospham Church for three years. Used to learn to read and repeat the Catechism. Was not taught to write. Cannot now either read or write. Have forgotten the Catechism. I think I could read a little in the New Testament, but not in any other book." At the same time, in some schools there is a superior method of instruction accompanied with a corresponding beneficial result, and it would be very unjust to deny that Sunday-school teachers as a class possess many excellent points of character, and are deserving of high esteem, especially in a country where the love of money is the predominant passion.

The National and the Lancasterian schools—the two great instruments of daily education for the children of the poor—are not essentially dissimilar in respect of the intellectual advantages which they offer, and they labour under the serious defects which are inseparable from what is called "the monitorial system," the employment of which, under existing arrangements, is rendered necessary by the number of pupils, from 100 to 1000, which are placed under one master. The best qualified teacher is unequal to such a task, if anything more is to be attempted than a sort of mechanical routine. The idea of monitors in these schools is obviously taken from the army, where the commander maintains discipline throughout a large body by an extensively graduated subordination of officers; but mere precision and order are not education, nor does it consist in the communication to hundreds of the will and the directions of a head, especially when, as in the case of monitors, the teacher is only a little less ignorant than the taught. In such circumstances it is impossible that there should be anything which deserves the name of mental and moral training.

Instruction in these schools is for the most part confined to reading or writing and arithmetic, with occasionally a little geography badly taught. A friendly reporter, Rev. Edward Field, thus speaks of the proficiency which he recently found in the national schools in the diocese of Salisbury: "Arithmetic was rather a matter of amusement than of practical utility. This was particularly the case in the girls' schools. In some of these, what was called Dr. Bell's first sum seemed to be the alpha and omega. I could not help expressing my opinion that the attempt in many cases was a mere loss of time. If it be said that a knowledge of arithmetic is of little importance to poor children, and especially to girls, surely then time need not be wasted on it. I could not but note a deficiency generally in the schoolmistresses with regard to this branch of instruction, and not the least in those who had been trained in London." "Much importance is attached to writing in most schools, and yet the methods of teaching it, and the progress made, were not generally satisfactory. I did not perceive generally any attempt at science or system in teaching to write." "Reading may be considered the staple commodity of our national schools. The same remark as before, with regard to the monitorial system, applies here, namely, that this important branch *generally* does not flourish under that system, but that in *particular cases* great proficiency is made. One great defect in schools of this kind appeared to be, that the masters or mistresses could not or would not specially instruct the monitors or pupil teachers *how to instruct*." "The attempts to make the children, by any particular process of instruction, understand the matters they read and learn by rote, were few and far between. The study of grammar was rarely if ever carried far enough to show the structure of words and sentences, and the explanatory method which has produced such excellent and admirable results in the sessional and other schools in Scotland was rarely known. Indeed the want of explanation seems to be the common great and crying defect of our national schools." "Works of industry are not much practised or known." "The list of books in use was generally small." "The moral and religious discipline of schools is confessedly a subject of first importance; the more important it is, the more difficulty I felt in forming conclusions upon it." "I met with so many instances in which the Lord's Prayer only is said, with the Apostles' Creed (the latter, I am afraid, too commonly considered and used as a prayer), that this matter requires and deserves particular attention." "If the monitorial system fails anywhere, here is confessedly the weak point."

That these remarks are not less applicable to the British and Foreign Schools appears from the evidence given by Mr. Wood, before the Committee on Education, 1838.

By general admission, the infant-schools give the best daily instruction to the children of the poor. A less inconsiderable number of the teachers receive some training for their office. A better spirit presides over their teaching and discipline. In theory they are admirable for the most part, but their actual worth is much overrated. Few persons are more competent to speak on the point than Mr. J. R. Wood, who gave his opinion before the Educational Committee to the following effect:—

"One of the defects of the present system is the assembling so many children together, and the constant appeal that is made to their emulation; it brings them out into publicity, and there are certain children who are brought prominently forward; of course, the natural disposition of the teacher would induce him to put those who are apt and quick before the others, and these frequent exhibitions to strangers visiting the school have all an injurious effect upon the mind of the child, and also an injurious effect upon the minds of other children, discouraging and disheartening them, and the great mass are generally of the latter kind. Then I consider the generality of the lessons in infant-schools are by no means sufficiently simple; there is a great deal of what is complicated; the children learn it by rote; one child sings it after the other, and thus they have no more idea of what they learn than the children in dame-schools. The number of children is also too large for efficient moral training. No valuable education can go forward without the teachers considering the intellectual development and the particular habits of the scholars, and in these large schools that is impracticable.

"The examination into a large number of infant-schools has led me to alter the favourable opinion I once held; at the same time, I see nothing that I can suggest in the place of infant-schools; I consider therefore that infant-schools are among the most valuable means we do at present possess, with all their faults, for acting upon the education of the lower classes, and one reason why infant-schools have not effected all they might have done, has arisen from the fact of there being so many persons masters and mistresses of these schools who are totally unqualified. Infant-schools became popular under the management of two or three talented individuals; infant-schools were established, and there was an immediate demand for masters and mistresses, and persons were sent for a month or six weeks to hear Mr. Wilderspin lecture, and they came away with the worst parts of the system, the noise and confusion of singing, and so on, but the really valuable points they seemed to have left out very much, consequently the infant-schools which are scattered up and down the country are not what they ought to be, and are not conducted in the way they should be. I do not conceive the system to be by any means perfect, but it is the best means I have met with or seen in operation for the education of the lower classes."

From the preceding review of the state of popular education in England, the inference is inevitable that, in the words of Mr. Dunn, secretary to the British and Foreign School Society Educational Committee, 1838, "it is wretchedly deficient both in quantity and quality." To the same effect is the opinion stated in the Report of the Chester Diocesan Board (1840):—"But if the quantity of education be deficient from the want of schools, the quality of such as is given is not less disproportionate to the legitimate demand. On this point the Diocesan Board appeals with confidence to almost universal experience. How few are those schools in which the scholars are well educated according to their several degrees, in which knowledge is so imparted as to fit them for their various duties in afterlife!" The Parliamentary Committee on Education (1838), after referring for particulars to the evidence taken before them, declare,—

1. That the kind of education given to the children of the working classes is lamentably deficient.

2. That it extends (bad as it is) to but a small proportion of those who ought to receive it.

3. That without some strenuous and persevering efforts be made on the part of government, the greatest evils to all classes may follow from this neglect.

The quality of the education may be partly inferred from the qualifications of the teachers. Now all the best authorities agree in representing the existing body of teachers, with some exceptions, as almost totally disqualified. The substance of the evidence in this matter given before the Educational Committee of 1838 was to the following effect:—The mistresses of the dame-schools are very imperfectly instructed; they have no acquaintance whatever with any correct methods of conveying religious and secular instruction; they have no idea of the proper mode of conducting the moral and industrial training of children; they resort to the business of education from necessity, and, under the pressure of adverse circumstances, are in great poverty, and very ill supplied with books and other instruments of teaching; they have often some other pursuit, such as needlework, washing, &c., and are generally of sour tempers and severe in their discipline. Of day-schools generally it is stated that the instructors are extremely unequal to the duty; that many are only half-informed themselves; that they are persons who are unable to obtain employment elsewhere, and that the worst consequences follow to the children who are placed under their instruction. The masters are generally ignorant of the depressing and unhealthy effects of the atmosphere which surrounds them, and do not consider it desirable that their schools should be better ventilated. In the poorest schools no pretence is made to teach morals, and many masters have no idea what teaching morals can possibly mean. One master, being asked if he taught morals, answered, "That question does not belong to my school, it belongs more to girls' schools."

It is not unusual to find the mistress of a dame-school gone out for the day, and her school left in charge of some neighbour or neighbour's child; sometimes she is found washing at the back of the house; at other times the washing and drying are carried on in the school. "In a garret, up three pair of dark broken stairs (in Liverpool), was a common day-school, with forty children, in the compass of ten feet by nine. On a perch, forming a triangle with the corner of the room, sat a cock and two hens; under a stump-bed, immediately beneath, was a dog-kennel, in the occupation of three black terriers, whose barking, added to the noise of the children and the cackling of the fowls on the approach of a stranger, was almost deafening; there was only one small window, at which sat the master, obstructing three-fourths of the light. There are several schools in the same neighbourhood which are in the same condition, filthy in the extreme." "One master, who stated that he used the globes, was asked if he had both or one only. 'Both,' was the reply; 'how could I teach geography with one?' It appeared that he thought both necessary, because one represented one half and the other the remaining half of the world. 'He turned me out of his school,' says the agent, 'when I explained to him his error.' It is thought unlucky for teachers to count their scholars. 'It would,' said a mistress, 'be a flat flying in the face of Providence. No, no, you sha'n't catch me counting; see what a pretty mess David made of it when he counted the children of Israel.'"

The masters of the day-schools were by no means sensible of their deficiency; one of them said, "I hope the government, if they interfere, will pass a law that nobody that is not high larnt shall teach for the future; then we shall have some chance." To the same effect is the statement of Dr. J. P. Kay, in his paper on 'The Training School at Battersea:'—"Very little inquiry confirmed what was previously suspected, that the number of English schoolmasters acquainted with the organization and discipline of elementary schools, and skilful in the application of approved methods of instruction, is exceedingly small, and by no means on the increase. Successive applications were made to those sources from which teachers are usually obtained in England, but these applications were almost invariably unsuccessful, for a variety of reasons. The attendance of the teachers trained in the model schools of the metropolitan and other societies seldom exceeds six months, and often does not extend beyond three. Experience of the motives by which the class of schoolmasters now plying their trade in this country are commonly actuated, is a graver source of want of confidence in their ability to engage in this labour than the absence of skill in their profession. A great number of them undertake these duties either because they are incapacitated by age or infirmity for any other, or because they have failed in all other attempts to procure a livelihood, or because, in the absence of well-qualified competitors, the least amount of exertion and talent enables the most indolent schoolmasters to present average claims on public confidence and support." Insufficient however as most of them are for giving such an education as the children ought to receive, the teachers of the National and British and Foreign Schools are superior to the instructors of ordinary day and dame schools. On this point the Rev. Edward Field, Inspector of National Schools, reports (1840)—"I have pleasure in being able to report that many of the mistresses of united schools of girls and boys were fulfilling their arduous and important task with zeal, fidelity, and success. In a few instances I had to report that the masters seemed too young for their difficult and responsible duties. Some mistresses of infant-schools were sinking under the continued pressure upon their strength and spirits." This guarded and qualified praise he is unable to extend to the teachers of dame-schools: "Too often the rule of such schools, when any profitable instruction is given, is a harsh one, and in others the honest declaration of one dame would apply to many,—'It is but little they pays me, and it is but little I teaches them.'" Table D will serve as an illustration of the extent to which the want of a previous training in teachers prevails, particularly among the poorer classes.

The ignorance of the Adult Population is also a proof of the insufficiency of the existing means for education. In the district in Wales where Frost made his outbreak, "of the adult population a large proportion could neither read nor write; very many had only acquired the art of knowing the letters and words, and very few could read with ease to themselves and understanding."

"Similar investigations in other parts of the district gave similar proofs of the insufficiency in the means of mental and moral culture. These received confirmation from the representations of the few booksellers who are the medium of the regular supply of such books and periodicals as may be required by the labouring portion of the community in the two parishes of Merthyr and Bedwelty, containing together 54,000 persons. Of the seven booksellers in these two parishes, two receive little or no demand from the working-classes; one has only a few second-hand books in a shop, filled chiefly with shoes; one keeps a stall in a market, to aid his sale of Welsh song-books, hymn-books, and small books for children, in which the chief part of his trade consists. The shops of the remaining three are from 12 to 15 feet square. They all stated that they could not live by their book-trade alone. The first depended on his sale of stationery, and on the employment he obtained as secretary to several benefit societies; he said he could not pay his small rent by the sale of Welsh or other books; he was agent for three Welsh newspapers, of which he distributed, on the whole, 72 copies monthly; he also sold 62 copies weekly of English newspapers, printed in Welsh towns, and circulating chiefly in Wales. The last monthly invoice of the second contained orders on his London agent for 22 small religious periodicals, eight copies of 'Chambers's Journal,' one 'New Monthly,' one 'Monthly Chronicle,' one 'Medical Gazette,' two 'Mechanics,' eight 'Penny,' and four 'Saturday' Magazines; his general orders and retail trade amounted to about 10*l.* per month. The invoice of the third for January consisted of orders for 20 small religious periodicals, 33 periodicals and small books for children, and 36 periodicals of general literature; among which the most important were, one 'Chambers's Edinburgh Journal,' four 'Taits,' one 'Mechanics,' and ten 'Penny' Magazines. There was also an order for one part of the 'Pictorial History of England.' The value of the whole, at the publishing price, including general orders, was 5*l.* 6*s.* 8*d.* These two parishes being situated in the heart of the hill district, and distant several miles from any town beyond its limits, the regular demand for books and periodicals on general subjects among the labouring population is not unfairly represented by the preceding statement." (Tremenheere's Report.)

From Reports made by the Rev. John Clay, chaplain of the house of correction at Preston, it appears that of 349 men charged with felony in 1835 and 1836, 150, or 43 per cent., were altogether unable to read; 82, or 23 per cent., were barely able to read: so that two-thirds, or 66 per cent., might be considered wholly uneducated. Of 78 women, 33, or 42 per cent., were unable to read; 28, or 36 per cent., could barely read, and only 5, or 6½ per cent., could read well; four could write their names, two others could write a little, and two only could write well. His Report for 1836-7 comprehends the cases of 935 individuals charged with various offences: of these, 460 were unable to read, 212 were barely capable of reading, and not more than 18 could read and write well. The amount of religious knowledge possessed by these prisoners is very small: 466 were quite ignorant of the simplest religious truths; 821 could repeat the Lord's Prayer, but were obviously incapable of understanding its import; 12 only had any acquaintance with the principles of religion.

The ignorance does not arise from want of resources, but from the habit on the part of the workmen of devoting their earnings to objects of immediate and sensual enjoyment. The following is given as exhibiting a fair specimen of the mode in which high wages are appropriated:

Expenditure of two steady workmen, living in their own cottages, each with a wife and four children, the eldest in both cases thirteen years of age, and helping the father:—

Collier, per Month:	£.	s.	d.
3 bushels flour, 13s. 6d.	2	0	6
8lbs. butter, 1s.	0	8	0
8lbs. sugar, 8d.	0	5	4
7½oz. tea, at 6d.	0	3	9
½lb. tobacco	0	2	8
6lbs. soap, 7d.	0	3	6
10lbs. cheese, 7½d.	0	6	3
8lbs. bacon, 8d.	0	5	4
1 lb. candles for house	0	0	7
8lbs. do. for labour, 7d.	0	4	8
12lbs. powder for do.	0	8	6
Potatoes	0	6	0
20lbs. fresh meat, 7d.	0	11	8
¼lb. currants	0	0	5
Raisins	0	0	3
Blue, starch, pepper, &c.	0	0	10
Clothes and shoes, about	0	16	0
Beer	0	6	0
	£6	8	3

Furnace-man, per Month:	£.	s.	d.
3 bushels flour	2	0	6
3 pecks malt	0	9	4½
12lbs. butter	0	12	0
10lbs. sugar	0	6	8
¾lb. tea	0	4	6
4lbs. soap	0	2	4
6lbs. cheese	0	3	9
12lbs. ham	0	8	0
1lb. candles	0	0	7
24lbs. fresh meat	0	14	0
¼lb. raisins	0	0	3½
¼lb. currants	0	0	5
Pepper, mustard, &c.	0	0	10
½lb. tobacco	0	2	8
Clothing, shoes, &c.	0	18	0
	£6	3	11

The following is taken from 'The Thirty-fifth Report (1840) of the British and Foreign School Society:'—

"Your committee cannot conclude this brief sketch of their domestic operations without adverting again to the evidence of the extent of popular ignorance still prevailing in England. The following statements, drawn from official sources, need no comment:—

"In the three months of July, August, and September, 1838, there were 27,670 couples married in England and Wales, whose marriages were duly registered, and copies of the registers transmitted to the General Register Office.

"Of these, the number who did not write their names, but signed with a mark, was—men, 8733; women, 13,624."

"The proportion per cent. of those who signed with a mark in the whole of England and Wales, in the metropolis, in North Wales, and in South Wales together with Herefordshire and Monmouthshire, is as follows:—

	Men.	Women.	Mean.
England and Wales	32	48	40
Metropolis	11	25	18
North Wales	39	70	54·5
South Wales, including Hereford and Monmouth	46	56	51."

In the tables of criminal offenders in England and Wales for 1840, a table is given showing the proportion of the different degrees of instruction of criminals in the agricultural as compared with the manufacturing and mixed counties, and with the whole of England and Wales. The comparative proportion of these results is as follows:—

	Agricultural Counties.*	Manufacturing and Mixed Counties.†	England and Wales.
Unable to read and write	38·72	31·72	33·32
Read and write imperfectly	55·18	59·53	55·57
Read and write well	5·76	8·22	8·29
Instruction superior to reading and writing well	0·34	[illegible]·53	0·37

The proportion of criminal offenders unable to read and write is exactly 7 per cent. more in the agricultural than in the manufacturing and mixed counties, while in the attainment of reading and writing well it is 2½ per cent. less. In Bedfordshire, the county having the largest proportion of the population employed in agriculture, the proportion who could read and write well is little more than 1 per cent., and in Oxfordshire 2¼ per cent., while in the manufacturing and mixed counties the lowest proportion is given in Gloucestershire, where 4·33 per cent. could read and write well.

Dr. J. P. Kay stated before the Education Committee, in 1838:—"I have been very strongly impressed, indeed, with the extreme ignorance of the poorer classes in the large towns and in the agricultural districts, especially of the south of England; and being desirous to obtain minute information on that subject, I transmitted to the masters of workhouses in Norfolk and Suffolk a circular, requesting them to give me an account of the number of adult paupers in their respective workhouses who could read in a superior manner, decently, or imperfectly, and the number who could write in a superior manner, decently, or imperfectly, for each of the respective class of paupers. I am able to present the committee with the results of that investigation." (See Table E.)

The deficiency which has existed in the school-education of the poor is now found to exert an injurious influence on even the most popularly constituted of the mechanics' institutions. For want of good early training, the young men for whom these establishments are designed are indisposed and unable to derive from them all the advantages which they are fitted to confer. Such of the opportunities of improvement which they offer, as require little effort of mind and little attention, those which appeal chiefly to the senses, and afford immediate pleasure—lectures on certain subjects, music, tea-parties, recitations, &c., are sought after, but little attention comparatively is given to the studies which the classes are intended to carry on in grammar, arithmetic, mathematics, and science generally. As might be expected under these circumstances, the support given to these institutions is fluctuating and uncertain. At the commencement of each quarter there is a rush of subscribers; the librarian is oppressed with applications for books, the classes fill, the supply of newspapers is deficient. Scarcely a month has passed when there is "room and range enough," especially in the class-room. In addition to this, each quarter nearly two-thirds are new members. Many of those who leave return after an absence of three or six months; but very few remain long connected with the institutions. In the library, works of fiction are chiefly in demand; even poetry is little in request, and scientific books generally remain quietly on the shelves.

The true Theory of Education can only be developed by considering what the being is on whom it is designed to operate. Education is, according to its etymology, the leading out or unfolding of the human powers. It is obviously therefore a means for a certain purpose. To learn what that purpose is we must refer to experience, and we must investigate the capacities of the human being. These being ascertained, education is, in any particular case, an instrument for developing them. Now we know that man has not only physical and intellectual, but also moral and spiritual faculties, all of which education ought to take under its care. That education is incomplete which neglects any one of these faculties; and that education discharges its functions imperfectly which does not cultivate the faculties in such degree that their action may be well adjusted, and their general working harmonious. But if there appear to be any one of the faculties apart from whose influence the rest work indifferently or produce baneful results, and which is found when in healthful vigour to strengthen and controlthe whole nature, this power ought to receive the chief attention. The work, then, of education is to foster, strengthen, and raise the physical, intellectual, moral, and spiritual capabilities of man; but especially his moral and spiritual capacities, which alone can govern the others. Some important deductions flow from these principles. Education ought to be universal both in relation to each individual and the community at large; for it ought to be co-extensive with the capabilities on which it is intended to act. It is contrary to the constitution of man and to the designs of God for any one of our capacities to remain undeveloped. They err who neglect to educate the body, and they also err who neglect to educate the mind. These errors represent two different classes of men. A certain school of philosophy at least makes light of religious education; physical education also has been lamentably neglected by the teachers of religion. The latter error is now disappearing, but the former has been gaining ground; and this error is the more to be deplored because its consequences must be serious and lasting. If any *one*, certainly the religious faculty may be considered as the moving power of the human being. But for the peculiar political circumstances of England, any system of popular education which omitted direct religious culture would probably have been considered by thinking men as defective. The difficulties which stand in the way of an adjustment of conflicting claims may be numerous and great, and they may account for the diffusion of the mistake in question; but no difficulties can excuse, much less justify, a departure from truth. Principles must be steadily asserted under adverse as well as favourable circumstances, and the result will at last prove far more satisfactory than anything which can ensue from expediency. Religion in education is all-important and indispensable, nor must the friends of a progressive civilization be deterred from proclaiming the fact by any apprehension that it may in some respects be turned to a bad account.

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* Bedford, Hereford, Lincoln, Cambridge, Bucks, Essex, Suffolk, Wilts, Oxford, and Northampton.

† Middlesex, Leicester, Surrey, Durham, York, Northumberland, Stafford, Warwick, Chester, and Gloucester.

In truth a religious training is the only way of forming such a character as the trials and duties of life require both among the rich and the poor. The mere acquisition of knowledge, and even of habits of reflection, can do very little towards real happiness. What the people want is true wisdom and moral power, without which life is a scene of conflict and misery; but wisdom and moral power are the peculiar gifts of religion.

Morality, therefore, should be taught in the schools in connexion with the sanctions of religion. Apart from religious sanctions morality may direct, but cannot control. Morality may enlighten and it may enjoin, but of itself it is powerless to govern; it is preceptive, not impulsive, pointing out our path, but not urging us on to pursue it. Now it is power rather than knowledge that man wants; and all genuine power for moral purposes has its source in religion. It may be well to remember that these distinctions of morality and religion are factitious and arbitrary; they are not recognised in the Christian revelation. Religion includes morality, or rather, is morality as well as religion, comprising in itself whatever is necessary for man to know, do, and be, whether in this state or the next, in order to fulfil the Divine will, to perfect his character, and work out his highest good. Consequently, he that is well trained in the knowledge and practice of the Christian religion has received both a moral and religious education, and is fitly prepared for the duties of life.

From this it will be seen that the religious education here demanded is not of a dogmatical, much less a sectarian kind; but such instruction as may enlighten the mind of the child and the adult; and such a discipline as may work the instruction into the character till it "leaven the whole lump."

It is not a little curious that in regard to education we may take a lesson from the ancient Persians,* who, according to Xenophon, removing education from the hands of the parents into the hands of the state, gave the same attention to the moral training of the young as is now under the best circumstances given to their intellectual instruction, and so brought them up under the influence of precept and example, that the state was saved from the painful necessity of inflicting punishment, in consequence of having taken such preventive measures as relieved the youth from the desire of what is low and unjust. Morals, with them were a practical science, the principles of which were first taught by word of mouth, and then by actual example and by daily practice.

The morals taught in primary schools should have a regard to domestic and social duties, or the obligations which an individual owes to his family and to the state. The instruction should consist not of dry precepts, but should appeal to the reason and affections, that it may both develop them and gain such a reception in the breast of the scholar as to become the living power which governs his conduct. It is strange that a subject such as moral instruction and training, which is of paramount importance, should hitherto have been almost neglected in the education of the children of the poor. Nor is it much less strange that the nation should have passed through dangers and difficulties of no insignificant kind within the last half century, suffering so little from outbreaks on the part of a population who had never been instructed in their social duties.

The preceding remarks lead also to the conclusion that the culture which is a part of education is in itself an end, if indeed it is not the great end of education. The husbandman sows the seed in order to produce grain; the teacher disciplines the faculties that he may bring them into healthful activity. In both cases there is an adequate end, a result in which the agents may satisfactorily rest. Education can have no higher object than the creation of happiness by means of the formation of character. This is the great object of the Deity himself; and even if the power which education gives is regarded as an instrument, as a means to some outward result, still the mental and moral culture is a good in itself. It is important therefore that the purposes of education should be kept in their proper rank. That which is secondary must not, however good, be thrust into the first place; and above all, that must not be altogether lost sight of, which in reality is in itself a most important result, if not the great end of education. The formation of character, then, to make (so to speak) true men and women, beings with their faculties complete, and, in consequence, with all their internal sources of happiness entire, full, and active—this should be an object carefully studied and diligently pursued. But here even superior minds halt behind the truth, making the chief object of education some extrinsic result—such as, in the case of males, fitness for the duties of their station in life; in the case of females, such as may prepare them to be pleasing wives and useful mothers—aims excellent in themselves, but scarcely entitled to hold the first rank, if for no other reason than this, that an outward accomplishment does not of necessity imply such an inward culture as will ensure health and vigour of character, and that durable and growing happiness which attends on genuine personal excellence.

The real nature of education considered as an instrument may also be gathered from these remarks. If the subject on which education operates is intellectual and moral in its character, and the effects which it labours to produce and the aims which it ought to pursue, also intellectual and moral, the instrument must be of a similar kind. Setting aside then so much of it as is designed for a physical result, education is a mental and moral influence; in other words, it is mind acting on mind; it is a superior acting on an inferior character; it is human thought and human sympathies brought to bear on kindred elements in the bosoms of the young; it is the power of religion living and breathing in one soul, going forth into another, and kindling within that other corresponding vitality. Whence it is obvious that much of what is called education does not deserve the name; that a mechanical routine is not education, nor dexterity of hand, nor skill in shaping certain forms, nor the utterance of articulate sounds. If so, then reading, writing, and arithmetic, how well soever they may be taught, ought not to be dignified with the name, though they may in favourable circumstances contribute something to education. It is equally clear that no genuine education can be imparted by one educator to large numbers of pupils of different ages and different capacities assembled together in the same place. Little can be done except each scholar comes into immediate contact with the educating mind. From that mind each pupil must draw the power which will quicken and call forth his own powers; and to determine how, in the case of the education of the children of the poor, this communication is to be secured, is an object of paramount importance.

The tenor of these observations has determined another thing, namely, what ought to be the prevailing spirit and what the discipline of a school. School in reality holds the place of home; home is God's school, but since present modes of life do not permit the parent to give his child a suitable training, he transfers education to the school. The school therefore should approximate as closely as possible to the home. Now in theory the homes of this land are Christian homes; the school in consequence should be a sort of Christian home. Such a union of terms calls up in the mind ideas of gentleness, forbearance, and affection. These then are the moral qualities which ought to prevail in the school. If so, severity and harshness must be banished as incompatible with the objects for which schools are instituted. Nor are they only incompatible, but they are actually preventive and subversive of those objects. The display of every moral quality produces its like in those who habitually witness it; and unless the aim in school-training is to produce a severe, harsh, and unloving character, severity and harshness must be studiously avoided.

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* Not that we suppose Xenophon represents a real state of society; but the opinions are just as valuable as if he did.

So also the intellectual influence employed should be such as is likely to strengthen the mental powers. The chief good of education is not to be looked for in outward results, nor even in the amount of knowledge communicated, but rather in such habits of mind,—power to fix the thoughts on any given object, to comprehend many particulars at one view, to resolve a complex subject into its component elements, to endure lengthened exertion, to carry determinations into practice, to find resources for thinking and for happiness within—as may fit a young person for discharging his duty under all circumstances. Mere instruction therefore is not education, but simply an instrument of education. The aim should be so to inform the mind, as by the very act of informing to develop and strengthen its powers. The instruction then that deadens the appetite for knowledge and overloads the powers is not education, but something foreign to its nature.

The teacher should follow Nature in her order of unfolding the faculties; he must address those first which appear first, and he must carefully abstain from anything calculated to force any natural power into premature activity, or to overwork any faculty. Now the sight, the hearing, and the touch are the gifts of nature which are earliest developed. The power of reflection comes later. The mind of a child is an empty storehouse; the eye, the ear, and the touch are the portals through which this storehouse is supplied with matter, which, received and laid up, is operated upon by the mind, pursuant to its own laws. If then the senses are the first of our faculties which are fit for use, the senses should receive the earliest attention of the teacher. A child can immediately observe; therefore the power of observation should be first cultivated. It is important that all the senses should receive cultivation, not merely for the information of which they may be made the vehicle, but also with a view to that training which is first among the purposes of education; but the eye may take precedence, as the sense of sight comes first in the order of natural sensibility. At a very early period the teacher should begin to show his scholar how to use his eyes and other senses, both by words and by examples; and as the other faculties are found to expand, so should they be from the first taken under his fostering care, that by exercise he may bring them to act harmoniously and efficiently.

It is however necessary that education should be also regarded as a means to some outward result, and here the social distinctions of life present themselves to our attention and modify our views. It is obvious that a child should learn that which will best prepare him for the labours, the trials, and the duties through which he will have to pass. In other words, the children of the poor ought to be taught what most concerns them to know, what they will have immediately to do, and what, other things remaining the same, will prove the most fruitful source of happiness. At the same time, the primary object of education,—the formation of character,—should also be kept in view; and the discipline through which a child ought to be conducted, and the subjects of knowledge to be placed before him, must be determined by a joint reference to his capacities and his probable future station in life.

Now in treating of the mere external parts of education, health of the body is the first thing that demands our attention. The body is the instrument by which the mind executes its purposes, and by which therefore much of the good which education does, makes itself felt. It would consequently seem to be of the first importance that this instrument should be kept in the highest state of efficiency. But this is an end which cannot be attained if men are brought up in total ignorance of the structure of their bodies and of the laws of health. From the first therefore children should be habitually taught to know the conditions on which health depends; such as relate to the state of their dwellings, the condition of their persons as to cleanliness and other matters of the like kind, of which not only the labouring classes, but many others are extremely ignorant. Yet knowledge of this kind possesses no place hitherto even among the plans which have been propounded for improving popular education. There is no peculiar difficulty in communicating the requisite knowledge, and on the part of the young the reception of it would be easy and pleasant. If we measure knowledge by its real usefulness, that is, its power to promote happiness, what comparison is there between this information and a knowledge of geography, history, or other things of the kind? A man may be ignorant of all these matters, and yet live a virtuous, happy, and long life, but he cannot with impunity remain ignorant of the laws of health. The most absurd and the most injurious prejudices prevail on this point among the people; and in general they imagine that sickness, disease, and death depend on causes altogether beyond their reach, on luck or chance, and that they have no other resource than passive submission.

It is also by means of the body that the children of the poor will have to get their bread. They should be taught to know this as a fact, as a simple piece of information, which involves neither merit nor demerit, neither honour nor dishonour. For such exercises of the body as they are likely to be called to, they ought from an early period to be prepared while at school by an industrial training.

This remark comprises much more than a demand of bodily labour from the young. It involves such a course of instruction as may best prepare them for their future occupations. There is no pursuit in life—not even that which is most mechanical—which does not depend on, or is not connected with, certain principles; for all manual labour is only the carrying out and realization of results for which science has prepared the way. It is equally certain that there is no labour which may not be lightened or relieved by knowledge. A good education therefore would make the labourer acquainted with the facts and principles on which his art is built; and thus enable him to enjoy the rational and sustaining pleasure of working understandingly, with a view to a given result, and labouring therefore in a manner fitted to improve his character as a man as well as his efficiency as a workman.

In the houses too of the working classes, particularly in the manufacturing districts, a change is most desirable. Whatever time may be occupied in school duties, there are many hours which a child spends during which the teacher has no influence over him; and these are the very times when the young are most susceptible of impressions; when the moral and intellectual capacities open to surrounding influences, and receive them readily and retain the impression deeply. In the actual state of things, then, the real teachers of the young are their parents, their brothers and sisters, their playmates, their casual companions—in one word, their home. And what must that home be for moral or for intellectual instruction, from which the mother is absent the greater part of her time, being occupied in the factory from five in the morning till six or seven at night? Another mother is indeed at home (a rare case), but she has from her girlhood up to her motherhood been trained in a factory, and knows scarcely anything of good housewifery, and still less of the moral obligations under which she stands to her children. The children themselves also are sent to the factory to work long before they could under any system have received a proper training. But they soon earn enough to make them feel independent of their parents, who, having perhaps for years derived the chief means of supporting the family from the earnings of three or four elder children, have become idle, lost their character, and have now to struggle with these elder children for the maintenance of their own authority, instead of being, at the most critical period of their lives, their guides and friends.

No small part of these evils results from the employment of females in mills and factories; nor can they be effectually removed by any other means than an act of the legislature, which should prohibit such an occupation to females altogether, or at least to the mothers of families. A great change would be effected in hundreds of families which are supported by factory labour if such a law were to pass, and if it were accompanied by an efficient system of education for females of the working classes. In the ordinary state of society all that should be peculiar in a female's education would be left to her mother. But among a large part of the manufacturing classes there are not mothers who could give anything approaching to the requisite education. There is then no other resource but the school. It is altogether impossible that the labouring classes, at least of the manufacturing districts, can ever be happy until a new and improved race of mothers appears. In addition therefore to the educational requisites already mentioned, it is necessary that there should be a sufficient number of girls' schools in which the ordinary arts of domestic life—baking, brewing, cooking, sewing, knitting, making and mending—should be taught; in which the children should be trained to personal neatness and propriety; to command their temper, to regulate their passions, to know and feel the importance of their actual and their coming duties. And since it is obvious that the mind of a child cannot understand many of the duties of women, there should be institutions to receive the children when they leave the school, institutions so ordered that their hours and discipline may be suited to young women engaged in and destined for manual labour; and presided over by matrons whose character would be a guarantee that all would be done to instruct and train their scholars for their future duties, whether as domestic servants or mothers of labourers' families. This matter is of vital interest to the working man, and therefore to the country, for it matters little what the labourer's earnings are, what his own intelligence is, if he has not a thrifty, kind-hearted, sensible, and industrious wife.

Among the changes desirable on the part of the parents is the existence of a disposition to provide out of their own resources suitable means for the education of their children. That it is their duty to make this provision when they have the power is unquestionable; and although it is too much to expect at the present, yet something may be done towards it, and the complete fulfilment of the duty may be looked to as an ultimate end. There is nothing but their own exertions which can bring to the labouring classes all the good that education can convey. The charity of education, like charity of every kind, tends to pauperise those whom it aims to benefit: and so long as the education of the poor depends on the efforts of rival and conflicting parties in religion or in politics, it is impossible that the power thus gained should not be used in order to further the opinions and interests of the several factions. In the mean time the people are regarded and treated as instruments for a purpose, and their education is shaped and varied not by a regard to what is absolutely best, but to what is conducive to the ends of the party which directs it. It is true that good has resulted from the efforts of individuals and of societies by which such education as the poor have received has been conducted during a century. It is equally true that these voluntary exertions have in many cases sprung from pure and enlarged benevolence. Still they could not under the circumstances fail to be accompanied by a large amount of sectarian and party feeling. At the present hour this is peculiarly the case. The church is arrayed against dissent, dissent is arrayed against the church, in competition for the largest share in the education of the children of the poor; and the rivalry is in greater or less activity through every town and village of the kingdom.

The magnitude of the evil and of the interests which are at stake seem to demand the intervention of the government by means of a general and truly national education. But the conflict of parties gives little reason to expect this at present. Still the government is doing something; but the remedial measures employed cannot overtake the disorder. Perhaps after all, the end to be aimed at is, that the people should seriously take the education of their children into their own hands, or entrust it to proper persons of their own choice. This end may be facilitated by that love of independence which has hitherto been a marked feature in the character of Englishmen, who do not like either a government or individuals to be obtruding on their private concerns.

Nor are the pecuniary means of the poor altogether insufficient for this important object. Exceptions at present must be made for large classes of workmen, but in general there are comparatively few families in which, with a wise economy, something could not be spared for education. If however the principle of association could be brought into operation in connexion with education, the difficulties would be much diminished. Already there are self-supporting dispensaries—hospitals for the body, why not self-supporting nurseries for the mind? As it is, the poor now pay in the large towns nearly the same sum of money for a bad education for half their children, which under proper arrangements would secure an excellent education for all their children. Let us suppose popular schools to be established, each containing one hundred children; and that each family supplies two scholars. Fifty families would constitute a school-union. The several unions in each neighbourhood might be formed into a district-union, the district-unions formed into county-unions; the county-unions into one grand national union. Let sixpence a-week be, by the laws of the union, paid for each child, and an income is secured for each school of 130*l.* per annum. For the guaranteed salary of 130*l.* a year a competent master would in time be obtained, who should be required to procure an assistant. School-rooms and school apparatus might be supplied by the state either as a gift or by loans. Then there are the rooms in which Sunday-schools are taught, the greater part of which are left unoccupied during 160 hours out of 168 of which every week consists. With the aids that would present themselves, the people in the larger towns at least could, without serious difficulty, provide school-rooms for themselves, if they did little more to repay loans than lay up the savings which would ensue from their making use in each district of their own school-room for transacting the business of their existing clubs and unions, instead of resorting, as they now generally do, to the public-house, where all have to pay a rent, not the less exorbitant for being mostly indirect, and where many barter away their resources and their character for present gratification, to be followed by future pain to themselves and their families.

In giving a brief notice of what has recently been done for the improvement of education in England, the efforts of government claim chief attention. These efforts have proceeded on the principle of stimulating and expanding the agencies which are already in existence, rather than of supplying the means for establishing a general and uniform system of education under the control of the state. For several years past, grants of 20,000*l.* per annum have been made by parliament, and distributed chiefly through the National and the Lancasterian schools, in furtherance of education. The following are the chief regulations made by the "Committee of Council on Education," as given in a document ordered by the House of Commons to be printed, October, 1840. The sum to be disbursed was 30,000*l.* Every application for a grant is to be made in the form of a memorial, addressed "To the Right Honourable the Lords of the Committee of Council on Education." The right of inspection will be required by the Committee in all cases: an arrangement has been made by which the Established Church, through its spiritual head, the Archbishop of Canterbury, concurs with this regulation: the inspectors will not interfere with the religious instruction, or discipline, or management of the school, it being their object to collect facts and information, and to report the result to the Committee in council. Before any application for aid is entertained, the Committee require to be satisfied, by reference either to the inspectors or to the National or British and Foreign School Society, that the case is deserving of assistance, that there are no charitable or other funds or endowments which might supersede the necessity of a grant, that the site of the school-house has been obtained with a good legal tenure, and that, by conveyance to trustees, it has been duly secured for the education of the children of the poor; that it is reasonable to expect that the school will be efficiently and permanently supported. In the buildings not less than six square feet are to be provided for each child. Those who receive grants must agree to submit to an audit of their building account, and to furnish reports of their schools. For every 10*s.* to be granted by the Committee, the means of educating one child at least must be provided. If any school is not in connexion with either of the Societies before named, the Committee will not entertain the case, unless some special circumstances are exhibited "to induce their lordships to treat the case as special."

The aid of the state is thus confined, so far as it concerns pecuniary means, to giving assistance in building new school-houses; but, indirectly, other important advantages will ensue from it. In the case of schools which they are invited to visit, the inspectors are instructed to offer advice for their improvement: to give encouragement to no plan of education in which intellectual instruction is not subordinate to the regulation of the thoughts and habits of the children by the doctrines and precepts of revealed religion. "The reports of the inspectors are intended to convey such further information respecting the state of elementary education in Great Britain as to enable parliament to determine in what mode the sums voted for the education of the poorer classes can be most usefully applied. With this view reports are to be made on the state of particular districts, and how far the interference of government or of parliament can be beneficially exerted by providing additional means of education." "Acting on the principle of assisting local exertions, the Committee of Council have prepared (and published) a series of plans of school-houses, in which are exhibited those improvements which are suggested by an extensive comparison of the results of experience," accompanied by "specifications, working drawings, and estimates, as well as forms for making contracts with builders, &c."

The aid thus given by the state has produced beneficial results. The grants made by the Committee of Council since 1839, amounting to 56,000*l.*, have been expended in the erection of schoolrooms, the outlay for building which amounts to nearly 190,000*l.*: the sums necessary beyond the grant have been supplied by private benevolence. By these means school accommodation has been acquired for 300,000 children. The government inspectors have been welcomed in every county into which they have been sent. In England, besides the schools which have been aided by public grants within these two years, 380 schools have recently invited inspection.

The National Society has of late assumed a degree of vigorous activity which promises to lead both to the extension and to the improvement of elementary education. The chief instrument to effect these purposes has been the establishment of Diocesan Boards, whose object in each case "is to awaken a disposition in the rich to impart bountifully, and in the poor to receive gratefully, the means of education; to impress on wealthier places the duty of assisting others; and to provide that the instruction given shall be of a proper kind, and shall include an elementary knowledge of all the principles necessary to prepare the young as well for time as for eternity." An inspector for the diocese of Salisbury, and one also for the diocese of Chester, have been appointed; several other dioceses "desire to participate in the advantages of this measure." Training-schools have been established in some dioceses, and others are preparing to establish them. The Diocesan Boards give attention to educational statistics. Some of them appropriate a part of their funds to the erection of school-houses; others assist in increasing the salaries of teachers and improving the routine of schools. Extending their care beyond the labouring classes, the Diocesan Boards intend to establish schools ("Middle Schools") for the children of the commercial and middle classes, and they have already made some progress.

Something has been effected for the improvement of the system of mutual instruction which is universally employed in the Bell and Lancasterian schools, by the introduction, in a few instances, of the educational improvements commenced by John Wood, Esq., and detailed in his "Account of the Edinburgh Sessional School," the great merit of which consists in their tendency to make the processes of instruction an intellectual discipline, as well as a pleasurable occupation, by means of judicious methods of tuition and suitable moral influences. A more recent improvement, and one more fitted for large numbers, is found in what is termed the "mixed method," a method which combines simultaneous instruction on the part of the master with the mutual instruction conducted under his supervision by the scholars themselves; and in some instances efforts are made, by means of instruction given out of school-hours to the better pupils, to train up a less insufficient class of assistants.

The most important results may be anticipated from the enlightened spirit with which Dr. J. P. Kay, secretary to the Committee of Council on Education, presides, under the direction of that council, over the changes that are in progress. Among his many efforts, those which he has made to provide a suitable education for the pauper children of the country, amounting in number to 56,835 under sixteen years of age, are of great moment, not only for the direct good which they will effect for a neglected class, but also for the impulse which the improvement of such a class must give to education in general. Most valuable information as to what is being done, as well as to what is needed, is contained in the "Report to the Secretary of State for the Home Department, on the Training of Pauper Children," 1841. The volume comprehends a full account of what has been accomplished, and of what is attempted, in the Training School at Battersea near London, established and for the most part hitherto supported by Dr. Kay and Mr. Tufnell. The work should be in the hands of every friend of popular education, as presenting the results of inquiries made in the best popular schools on the Continent, and particularly as presenting the best of what has hitherto been effected for supplying a well-trained class of teachers. The design is to educate—1, preparatory classes of students and pupils; 2, a class of candidates; 3, a class of scholars. Pupils of the first class are examined at the end of the first year, and, if approved, receive a certificate as candidates of the training-school: the candidates who make due proficiency pass at the end of the second year into the rank of scholar; and in their turn, the scholars in the third year, on evincing suitable improvement, receive the certificate of master. Hitherto the training-school has not passed the preparatory stage; the routine for the classes in this stage is given in the Table F.

Similar Tables for the education of the more advanced classes, as conducted in Continental schools, are given in the book; in which Tables, among other points worthy of commendation, two subjects of instruction deserve special mention: "The means of improving the health and condition of the people;" "Instruction in the law and duties of a citizen." Not only however is the range of instruction in the school at Battersea commensurate with the duties for which the young men are training, but the methods pursued are no less effective than new in relation to the great branches of instruction which now constitute and those also which ought to enter into the elementary education of the country. The religious department appears to be conducted in the least satisfactory manner.

APPENDIX.

TABLE A.

	PLACE.		Population.	Children of Working Classes at Daily Schools —viz.		TOTAL.
				Day and Dame Schools, Very indifferent	Other better Schools.	
1836.	Liverpool		230,000	11,336	14,024	25,000
1834.	Manchester		200,000	11,520	5,680	17,100
1835.	Salford		50,810	3,340	2,015	5,350
—	Bury		20,000	1,648	803	2,451
1835.	Ashton . . . . . Duckenfield . . . . . Staley Bridge		47,800	. .	. .	2,496
1837	Birmingham		180,000	8,180	4,697	12,877
1837.	Bristol		112,438	- - not including scholars in private schools.	5 to 15 . . Total . .	4,135 5,254
1838.	Brighton	B. & F. National	40,634 in 1831	1,367 863	3 033 3,247	4,400 4,110
1837.	West Bromwich . . .		. .	- - of 6,3?5 children under 14 years old.	. .	1,554
1838.	Leeds . . .	B & F	123,393 in 1831	- - no return of Dame or Day, but only public schools	2,971	
1838	Sheffield		96,692 in 1831	3,359	5,905	9,314
	Northampton	B & F National	20,000	1,011 986	1,215 1,202	2,226 2,198
	Reading . . .	B & F	15,595 in 1831	297	962	1,259
	Exeter		28,242 in 1831	2,045	1,830 including evening	3,875
1836.	York		25,359 in 1831	1,494	2,697	4,191

Note.—The general result of all these towns is, that about one in 12 receive some sort of daily instruction, but only about one in 24 an education likely to be useful In Leeds only one in 41, in Birmingham, one in 38; in Manchester, one in 35.

TABLE B.

BOROUGH OF	Estimated Population at period of Inquiry.	Children from 3 to 13 estimated, without deducting any from Number living between 5 and 15, according to Population Returns.	Number attending superior Private Schools, and belonging to Middle and Upper Classes	Number of Children of Working Classes from 3 to 13 for whom Education should be provided, One-third being deducted from the whole number between 3 and 13 for those privately educated, or employed, or sick, or prevented by Casualties from attending School, and also deducting the Number attending superior Private Schools.	Number of Children of Working Classes attending Endowed and Charity Schools, and Schools attached to Public Institutions and Infant Schools	Very ill Educated	Uneducated in Day Schools	Total Uneducated and very ill Educated.	Annual Outlay required for Education, by an efficient method, of Children now Uneducated, or very ill Educated, supposing the School-rooms to be built and kept in repair.	Number of Children very ill Educated.	Cost of providing for the foregoing Number of Children a worthless or indifferent Education by existing method, without Deductions for Losses by irregular Payments, &c.	One-fifth which may be deducted for irregular Payments and difference in Rate of Payment, &c.
						Number attending Dame Schools and common Pay Schools	Number uneducated in Week-day Schools.		£		£	£
Manchester .	200,000	50,000	2,934	30,100	4,101	11,624	14 641	26,265	19,500	11,624	17,396	3,179
Salford . . .	55,000	13,750	882	8,285	1 776	3 357	1 172	6,500	4,800	3,357	5,215	1,043
Liverpool . .	230 000	57,500	4 080	14 254	13,500	11,336	9,418	20,754	15 300	11 336	16,408	3,281
Bury . . .	20,000	5,000	174	3,160	652	1,648	860	2,508	1,800	1,648	2,097	419
	505,000	126,250	8,070	76,049	20,031	27,965	28,091	56,096	41,400	27,965	41,118	8,2[illegible]
				Ratio to population . . .	1 in 25	..	..	1 to 9				
				Ratio to children of working classes who ought to be in attendance on school . . .	1 in 3½	..	..	5 to 7				
York . . .	28,000	7 000	718	3,951	1,[illegible]	1,294	731	2,02[illegible]	1,[illegible]	1,294	1 399	
				Ratio to population . . .	1 in 14	..	..	1 to 14				
				Ratio to children of working classes who ought to be in attendance on school . . .	1 in 2	..	..	1 to 2				

TABLE C.

Number attending	NUMBERS RECEIVING INSTRUCTION.								
	In the City of York, 1836.			In Four Parishes of the City of Westminster, 1837.*			In the Borough of Birmingham, 1838.		
	Scholars	Per Centage: Of the whole Population, estimated at 28,000	Per Centage: Of the Total Number of Scholars.	Scholars	Per Centage: Of the whole Population, estimated at 43,000	Per Centage: Of the Total Number of Scholars	Scholars	Per Centage: Of the whole Population, estimated at 180,000	Per Centage: Of the Total Number of Scholars.
Day or evening schools only	2,228	7·96	39·85	3,215	7·46	67·40	10,902	6·05	39·41
Both day or evening and Sunday schools	2,521	9·00	45·09	889	2·06	18·63	4,141	2·30	14·97
Day and evening schools	4,749	16·96	84·94	4,104	9·52	86·03	15,043	8·35	54·38
Sunday schools only	842	3·01	15·06	666	1·55	13·97	12,616	7·01	45·62
Total day or evening and Sunday scholars	5,591	19·97	100·00	4,770	11·07	100·00	27,659	15·36	100·00
Number of scholars estimated to be under 5 or above 15 years of age	1,020	..	.	1,112		..	5,825		
Children between 5 and 15 years of age attending school	4,571	..	..	3,658	..	..	21,834		
Estimate of the total number of children between 5 and 15 years of age	7,000	..	..	10,750		..	45,000		
Number between 5 and 15 years of age not attending school	2,429	.	..	7,092	..		23,166		
	34·7 per cent	.		65·9 per cent	.	.	51·5 per cent		

* The parishes of St. Martin in the Fields, St. Clement Danes, St. Mary le Strand and St. Paul Covent Garden, including the Savoy.

TABLE D.

NUMBER of TEACHERS of various classes of Day and Evening Schools, and the number who have received any Education for their employment in the undermentioned boroughs.

Borough of	Dame Schools: Number of Teachers	Dame Schools: Number Educated for the Employment	Dame Schools: Number not ascertained	Common Boys and Girls Schools: Number of Teachers	Common Boys and Girls Schools: Number Educated for the Employment	Common Boys and Girls Schools: Number not ascertained	Superior Private Schools: Number of Teachers	Superior Private Schools: Number Educated for the Employment	Superior Private Schools: Number not ascertained	Evening Schools: Number of Teachers	Evening Schools: Number Educated for the Employment	Evening Schools: Number not ascertained	Infant Schools: Number of Teachers	Infant Schools: Number Educated for the Employment	Infant Schools: Number not ascertained	Endowed and Charity Schools: Number of Teachers	Endowed and Charity Schools: Number Educated for the Employment	Endowed and Charity Schools: Number not ascertained
Manchester	[illegible]			[illegible]	[illegible]		144	[illegible]	.	86	[illegible]			2			5	
Salford	[illegible]	10	..	[illegible]	[illegible]		29	1		28	[illegible]		1			11	..	.
Liverpool	244	2		104	8		[illegible]	[illegible]	41	43	[illegible]		1			[illegible]	[illegible]	[illegible]
Bury	[illegible]	2		17	4		8	[illegible]		0						1	2	..
York	1			[illegible]	2		30	[illegible]	1	4					.	31	11	2
Total	606	14		[illegible]	46	[illegible]	324	[illegible]	11	[illegible]	[illegible]		[illegible]	[illegible]	.	119	46	10

TABLE E.

RETURN respecting the Paupers above the age of 16 in the Workhouses of the Norfolk and Suffolk Unions and Incorporations, on the 12th day of June, 1837.

Description of Pauper	Number of Paupers of each class now in the workhouse	Number of these Paupers who can read: In a superior manner	Number of these Paupers who can read: Decently	Number of these Paupers who can read: Imperfectly	Number of these Paupers who can write: In a superior manner	Number of these Paupers who can write: Decently	Number of these Paupers who can write: Imperfectly	Number of these Paupers who can neither read nor write	Number of each class who had been in a workhouse previously to the formation of the Union.
Men									
Able bodied	[illegible]	[illegible]	44	10	[illegible]	14		[illegible]	30
Temporarily disabled	60	5	14	4	2	11	7	24	29
Old and infirm	513	12	112	58	3	69	17	307	329
Women									
Able-bodied	355	18	95	75	3	18	27	157	16
Temporarily disabled	49	6	15	13	1	1	11	[illegible]	17
Old and infirm	349	4	53	40	0	14	[illegible]	[illegible]	21
Total	1459	46	326	200	[illegible]	131	[illegible]	816	[illegible]
			572			445			

TABLE F.—Daily Routine.

½ past 5 . . .	Rise, wash, dress, and make beds.						
6 to 6½ . . .	Household work, viz. scrubbing and sweeping floors, cleaning plates, shoes, knives, &c., pumping water, and preparing vegetables.						
6½ to 7	March into garden, and commence garden-work, feed pigs, poultry, and milk cows.						
7½ to 8	March from garden, deposit tools, and wash.						
8	Reading of Scriptures and Prayer. (In the evening, half an hour was commonly occupied in a familiar exposition of the passage of Scripture read.)						
After Prayer . .	Superintendents present reports.						
¼ past 8 . . .	Breakfast.						
		Monday.	Tuesday.	Wednesday.	Thursday.	Friday	Saturday
9 to ¼ past 9 .	Classes united	Reading in the Bible and religious instruction. Old Testament History	Reading in the Bible and religious instruction. The Gospels.	Reading in the Bible and religious instruction. The Acts of the Apostles	Reading in the Bible and religious instruction. The Epistles.	Committing to memory texts of Scripture.	Committing to memory texts of Scripture, or examination on the Scriptural reading of the week.
¼ past 9 to ¼ past 10	1st class . .	Mechanics .	Arithmetic .	Mechanics .	Arithmetic .	Mechanics . .	Weekly examination.
	2nd class . .	Arithmetic .	Mechanics . .	Arithmetic .	Mechanics . .	Arithmetic .	
¼ past 10 to 11 .	1st class . .	Mental arithmetic.	Etymology .	Mental arithmetic.	Etymology .	Mental arithmetic	
	2nd class . .	Etymology .	Mental arithmetic.	Etymology .	Mental arithmetic.	Etymology .	Ditto
11 to 12 . . .	Classes united.	Geography .	Geography .	Music . . .	Geography .	Geography .	Music.
12 to 1 . . .	Garden-work, feeding the animals, &c. &c. March to the house at 1; wash and prepare for dinner.						
¼ past 1 . . .	Dinner						
2 to 3	Classes united	Mechanical Drawing	Map Drawing .	Mechanical Drawing	Common and Isometrical Perspective.	Map Drawing	Weekly examination
3 to 4	1st class . .	Algebra . .	Use of the Globes	Mensuration .	Use of the Globes	Algebra . .	Ditto
	2nd class . .	Grammar . .	..	Algebra . .	..	Grammar.	
4 to 5 . . .	1st class . .	Natural History of Birds	Grammar . .	Object Lesson .	Grammar . .	..	Ditto
	2nd class . .	Ditto . . .	Committing to memory arithmetical tables and rules of grammar, or mechanical formulæ.	..	Committing to memory arithmetical tables and rules of grammar, or mechanical formulæ	Committing to memory	
5	March to garden-work, feed pigs, poultry, &c., and milk cows.						
6	March from garden, wash and prepare for supper						
¼ past 6 . . .	Supper						
7	Drill and gymnastic exercises.						
8	Copying music or notes on geography, or mechanical formulæ in the upper class room During this period the History of England is read aloud Another class practising singing in the lower class-room						
9	Reading of Scripture and Prayer						
30 minutes past 9	Retire to rest						
	Sunday						
	After divine service one of the sermons of the day is written from memory. In the evening the compositions are read and commented upon, and the Catechism or some other portion of the formularies of the church is repeated, with texts of Scripture illustrating it Some of the elder students teach in the village Sunday-school						

GRAMMAR-SCHOOLS.

BY GEORGE LONG.

THE importance of this subject is a sufficient reason for attempting to explain it in a periodical publication which is extensively circulated, while the limits of this notice must be urged and accepted as an apology for an imperfect handling of the matter. Many erroneous notions prevail on the subject of endowments for education, some of which may be removed by a brief explanation of the nature of these foundations. It is also generally supposed that these establishments require to be considerably modified in order to suit the wants of the times; and the zeal of some persons, which is much greater than their wisdom, would even remodel them entirely. In order to understand how far such a remodelling is wanted, we must consider the nature of such foundations generally, we must form correct notions of their original constitution, and we should know what modifications have already been made in them, and what means exist at present for effecting any further changes. There are persons who would make quite a new appropriation of the bounty of our founders of places of education, and would apply it to objects different from those which they have pointed out. But some regard is due to the wishes and intentions of departed benefactors, simply because they are benefactors; and so long as the purposes for which they have given their property continue to be useful purposes, it seems difficult to find any sufficient reason for a different appropriation of their bounty. It is not enough to say that other purposes more useful might be effected by a different appropriation of these funds, for if this is urged to its full extent, it is a reason for a different appropriation of all property which an individual gives by testament or otherwise. The mere fact of a different appropriation than that directed by a donor being a better appropriation is no ground for legislative interference, for the same ground applies to all cases of gift where it can be shown that the gift might be better appropriated. It is a legal principle that a man may give his property as he pleases for all legal purposes, and it would be an application of a contradictory principle if the legislature were in any given case to apply such property to a different, simply because it is supposed to be a better, purpose. Nor does it make any difference that property given for purposes of education is not given, as in the ordinary case of a gift to an individual, for the benefit of any particular person or persons who are named, nor that it is intended to have a perpetual existence, and to be incapable of being disposed of like a gift to an individual; for it is of the essence of a charitable gift (in the legal sense of the word charity, which is hereafter explained) to be for the benefit of individuals not named, but only designated, and for that purpose to have a perpetual existence. If then the positive law of any country shall generally permit men to make gifts for charitable purposes, without any other restriction than that they shall be legal purposes, it is necessary, in order to consistency, that the law shall also allow donors to designate the objects of their bounty and to secure its perpetual existence. The law of this country does permit such gifts for charitable purposes without any restraint on the giver, except so far as certain forms of gift may be required, and except the condition always implied that the gifts shall be for legal purposes. Any interference then in any given instance which shall entirely change the purposes of such gift is an anomaly in legislation. Such change is not bad as law, for it is here supposed that the change is by virtue of a law, but it is bad as legislation, because it is a particular act of legislation which contradicts an acknowledged general principle of law. The cases in which changes in the purposes of a charitable gift are not open to this objection are only two. The first case is when the purposes, though not direct violations of law, are clearly injurious to society, and indeed such purposes may, in a sense, be considered as violations of law. The second case is when the donor's particular intentions are or have become impracticable, owing to change of circumstances or other causes which he could not foresee, and yet his general intention is clearly declared. Here his general intention is a safe guide, and the purposes of his gift may be modified so as to come as near as may be to his expressed wish. But it must be remembered that a man's intentions can only be collected from his acts, and it is not safe to conjecture what he would have done with his bounty if he were living now, except from his declarations which accompanied the gift. In all cases where a foundation is now remodelled, either by legislative act or by schemes of the Court of Chancery, it is implied that the founder's intention is regarded, which means his intention as made known, and not what any person might suppose would be his intention if he were *now* living; for different persons would impute to him different probable intention, if he were now living; and it would be equally fair for a person to say that if he were now living he might have no intention at all to give his property to charitable purposes, seeing how often such property fails to do all the good that the donor contemplated, and seeing also the less need there is for such gifts now than there was formerly. A donor may have given his property, among other purposes, for the instructing and bringing up of children in certain religious doctrines, and in the practice of certain religious observances; and if such purposes are legal, there is no ground for altering them in any respect, because certain persons from religious scruples cannot, or for any other reasons do not choose to, partake of the donor's bounty on the terms which he has prescribed. The principle here insisted on is this: so long as there is no general rule of law, or no general law, which prevents a person from giving his property for charitable purposes on such terms as he pleases, it is an inconsistency in legislation, that is, it is bad legislation, to remodel any particular charitable gift in order that persons may enjoy the benefit of it who will not comply with the donor's terms. It is a consequence of this principle that there ought to be no legislative interference with any charitable foundation which shall enable any person to have the benefit of it whom the donor did not intend to benefit, until there shall first be some general enactment which shall limit the power of donors for charitable purposes in a different way, and to a greater extent, than such power is now limited.

An Endowed School in England is a school which was established and is supported by funds given and appropriated to the perpetual use of such school, either by the king or by private individuals. Endowed schools may be divided, with respect to the objects of the founder, into Grammar-schools, and schools not grammar-schools. A Grammar-school is properly a school in which the learned languages, the Latin and the Greek, are taught, as will hereafter be more fully explained. Endowed schools may also be divided, with respect to their constitution for the purposes of government, into schools incorporated and schools not incorporated. Incorporated schools belong to the class of corporations called eleemosynary, which comprehends colleges and halls, and chartered hospitals or almshouses.

Endowed schools are comprehended under the general legal name of Charities, as that word is used in the act of the 43rd of Elizabeth, chap. 4, which is entitled 'An Act to redress the Misemployment of Lands, Goods, and Stocks of Money heretofore given to Charitable Uses.'

The charitable uses comprised in the statute are reduced, by Sir Edward Coke in his exposition of it, to twenty-one heads, of which the following relate to education: schools of learning, free schools, scholars in *universities*, education and preferment of orphans. The legal sense of the word Charity comprises many other things besides endowments for education; such, for instance, as gifts for the relief of aged, impotent, and poor people, and for repair of bridges and churches. The word charity has so far a technical meaning that a gift for benevolent purposes generally, or for purposes of liberality, is not such a gift as the Court of Chancery considers to be within the meaning of the Act of Elizabeth, or within the objects which that court has, from analogy to the purposes of the act, declared to be charitable.

Incorporated schools have generally been founded by the authority of Letters Patent from the crown, but in some cases by act of parliament. The usual course of proceeding has been for the person who intended to give property for the foundation of a school to apply to the crown for a licence. The licence is given in the form of letters patent, which empower the person to found such a school, and to make, or to empower others to make, rules and regulations for its government, provided they are not at variance with the terms of the letters patent. The patent also incorporates certain persons and their successors, who are named or referred to in it, as the first governors of the school. This was the form of foundation in the case of Harrow School, which was founded by John Lyon, in the fourteenth year of Elizabeth, pursuant to letters patent from the queen. St. Bees' School in Cumberland was also founded by letters patent of the 25th of Elizabeth, on the petition of Edmund Grindall, Archbishop of Canterbury: the letters patent, which are in Latin (as usual at that time), recite that "The Right Reverend Father in God Edmund Archbishop of Canterbury had humbly supplicated the queen to erect, found, and establish a Grammar-school (una Schola Grammaticalis) in the vill of Kirby Beacock, otherwise St. Beghes, for the good education and instruction of the children and youths (puerorum et juvenum) there, and in the adjoining parts, inhabiting and dwelling," &c. Sometimes the master and usher are made members of the corporation, or the master only. In the instance of Berkhampstead School, which was founded by act of parliament (2 & 3 Edw. VI., reciting certain letters patent of Henry VIII.), the corporation consists of the master and usher only, of whom the master is appointed by the crown, and the usher is appointed by the master. The lands and other property of an incorporated school are vested in the corporation, whose duty it is to apply the rents, pursuant to the terms of the donation, in supporting the school, that is, in paying the master and usher such sums as they are entitled to receive, and for other purposes necessary for the support of the school. Many school endowments are of a mixed nature, the funds being appropriated both to the support of a free-school and for other charitable purposes. These other purposes are very various; but among them the union or connection of an hospital or almshouse with a free-school is one of the most common.

When there is no charter of incorporation, which is the case in a great number of school endowments, the lands and other property of the school are vested in Trustees, whose duties as to the application of the funds are just the same as in the case of an incorporated school. If the founder has declared that there shall always be a certain number of Trustees, or that the original number shall always be filled up whenever it is diminished by death to a certain amount, it is necessary from time to time for the actual trustees to add to their numbers by such legal modes of conveyance as shall vest the school property in them and the new trustees jointly. These conveyances sometimes cause a considerable expense; and when they have been neglected, which is often the case, and the estates have consequently become vested in the heir-at-law of the surviving trustee, some difficulty is occasionally experienced in finding out the person in whom the school estates have thus become vested by operation of law. When the school property consists of money, the same kind of difficulty arises; and money is also more liable to be lost than land.

Every Charity, and Schools amongst the rest, seems to be subject to Visitation. We shall first speak of incorporated schools.

The founder may make the persons to whom he gives the school property on trust also the governors of his foundation for all purposes; and if he names no special visitor, it appears that such persons will be visitors as well as trustees. If he names a person as visitor, such person is called a special visitor; and it is a general rule that if the founder names no special visitor, and does not constitute the governors of his foundation the visitors, the heir-at-law of the founder will be visitor; and if there is no heir-at-law, the crown will visit by the lord keeper of the great seal. The king is visitor of all schools founded by himself or his ancestors. The duties of trustees and visitors are quite distinct, whether the same persons are trustees and visitors, or the trustees and visitors are different. It is the duty of trustees to preserve the school property, and to apply it to the purposes intended by the founder. In respect of their trust, trustees are subject to the jurisdiction of the Court of Chancery, like all other trustees; and of course they are answerable for all misapplication of the funds. It is the visitor's duty to inquire into the behaviour of the master and usher in their respective offices, and into the general conduct of the school. He must judge according to the founder's rules, which he cannot alter unless he is empowered by the terms of the donation to do so. There seems to be no reason for supposing that the king, in respect of royal foundations, has any further power than other persons, and consequently he cannot alter the terms of the donation, unless this power was originally reserved to the founder and his successors; but on this matter there may be some difference of opinion. The visitor, or those who have visitorial power, can alone remove a master or usher of an endowed school. The Court of Chancery never removes a master or usher when they are part of the corporate body, on the general principle that this court has no power to remove a corporator of any kind; and when there is a visitor, or persons with visitorial power, the Court never attempts directly to remove a master or usher, even if they are not members of the corporation.

This is the law on the subject. But law does not always regulate the decrees of a court of equity, as will appear from the following case:[*]—The grammar-school of Tideswell was founded by Robert Pursglove, suffragan bishop of the see of Hull, under letters patent of Queen Elizabeth. The letters patent made the master of the school and his successors, with the vicar and wardens of Tideswell parish, a corporate body; and lands were conveyed to the corporation in trust for the school, and for other charitable purposes. One Brown, the master of the school, had also been collated to the vicarage of Tideswell, upon which an information was filed in the Court of Chancery, alleging that it was not the intention of the founder that one person should fill both places, and also alleging that this union had led to an improper application of the funds. The information further suggested that the master should either give up the vicarage or be removed from the school. A decree was made by Sir John Leach, by which, among other things, it was ordered that Brown should either give up the mastership of the school, or resign the vicarage. This case is only worth citing for the purpose of showing distinctly that the powers of the Court of Chancery are not so great as a man might infer from such a decree being made. As to the vicarage, the Court of Chancery has no jurisdiction to deprive a spiritual person of his benefice. And it is clearly laid down by higher authority than that of Sir John Leach, that the Court of Chancery "has no jurisdiction with regard either to the election or amotion of corporators of any description. Corporators, constituted trustees, have indeed sometimes been, by decree of the court, divested of their trust for an abuse of it, as any other trustees would have been; but that is very different from divesting a person of his corporate character and capacity.' (Sir W Grant, Attorney-General, *v.* the Earl of Clarendon, 17 Ves. 498.)

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[*] This case, which is entitled the Attorney-General v. Brown, is not reported, so far as the writer knows.

Trustees of endowed schools which are not incorporated are accountable in a court of equity for the management of the school property. But the internal management of the school still belongs to the special visitor, if there is one; and if there is no special visitor, it belongs to the founder's heir. Trustees of endowed schools, simply as such, are merely the guardians of the property, as already observed, and it is their duty to take care of it, and to apply the income according to the founder's intention. It has however happened that in schools not incorporated the jurisdiction of the Court of Chancery and the visitorial jurisdiction have not been kept quite distinct, and cases have arisen in which it has been found very difficult to determine what ought to be the proper mode of proceeding. It will perhaps be difficult to find an instance (except that of the Attorney-General *v.* Brown, and even the effect of that was only to put the master to his election) where the Court of Chancery has affected to remove a master even of a school not incorporated, though there are cases in which it has been attempted indirectly

In the case of Atherstone school, which was founded by letters patent of Elizabeth, 1593 (Reports of Charity Commissioners, 29th Rep, part ii p 955), no express power was given to the governors to remove the master. On an information being filed by the master of the school the chancellor thought that the power of suspension and amotion of the master ought to have been vested in the governors and the bishop of the diocese concurrently, and he referred it to the Master in Chancery to approve of some convenient form of such joint regulation But this and other similar cases are of very doubtful authority Properly, the removal of a master is only effected by a person appointed as visitor by the founder, and if there is no such visitor and no founder's heir, the proper mode of proceeding in such case is to apply by petition to the keeper of the great seal as visitor on behalf of the crown, and not to the chancellor by bill, or by bill and information There is no doubt that a special visitor, who receives the proper power for that purpose from the founder, can remove the master of a school, and it is equally certain that, if the founder has appointed no special visitor, the visitorial power belongs to his heir-at law, if one can be found It may however be true, as it is sometimes asserted, that it would be difficult to find an instance in which the founder's heir has exercised such visitorial power *

A free grammar-school is an endowment for teaching the learned languages, or Greek and Latin, and for no other purpose, unless the founder has prescribed other things to be taught besides grammar This legal meaning of the term grammar-school has been fixed by various judicial decisions, and it is quite established that, if the founder merely expresses his intention to found a grammar school, the school must be a school for teaching Latin and Greek only If it should happen that the endowment has for a long time been perverted from its proper purposes, this will not prevent the Court of Chancery from declaring a school originally designed for a grammar school to be still a grammar-school, and it will give the proper directions for carrying into effect the founder's intentions, whatever may be the length of time during which they have been disregarded. This was the case with the grammar-school of Highgate, in the county of Middlesex, which was founded by Sir Roger Cholmeley, under letters patent of Queen Elizabeth, under the title of the Free Grammar-school of Roger Cholmeley, knight. The statutes were made in 1571 by the wardens and governors, with the consent of the Bishop of London, under the authority of the letters patent. The first statute ordered that the schoolmaster should be a graduate, and should teach young children their A B C, and other English books, and to write, and also in their grammar as they should grow up thereto. An information which was filed against the governors charged that the school had been converted from a free grammar-school into a mere charity-school, and that the governors had in other ways abused their trust. The facts of the abuse were established, but it was shown that so far back as living memory could go, the school had been merely a place of instruction in English, writing, and arithmetic, and also that in other respects the statutes had not been observed as far back as the year 1649. Notwithstanding this, it was declared by the chancellor (Eldon) that this was a school originally intended for the purpose of teaching grammar, and a decree was made for restoring the school according to the intention of the founder. The school was accordingly restored, and is now in active operation as a grammar-school under a scheme of the Court of Chancery (Att -Gen. *v.* Earl of Mansfield, 2 Russ. 501)

As to teaching something besides Latin and Greek in an endowed school, Lord Eldon observes (Att.-Gen. *v.* Hartley, 2 J. & W., 378), "if there was an ancient free grammar-school, and it at all times something more had been taught in it than merely the elements of the learned languages, that usage might engraft upon the institution a right to have a construction put upon the endowment different from what would have been put upon it if a different usage had obtained." When the founder has only intended to establish a grammar-school, and has applied all the funds to that purpose, none of them can be properly applied to any other purpose, however useful it may be, such as teaching the modern languages or other branches of knowledge. This legal position cannot be disputed. When the funds of a school have increased so as to be more than sufficient for the objects contemplated by the founder, the Court of Chancery will direct a distribution of the increased funds, but it will still apply the funds to objects of the same kind as those for which the founder gave his property. If then a founder has given his property solely for the support of a grammar school, it is inconsistent with his intention to apply any part of the funds to other purposes, such for instance as paying a master for teaching writing and arithmetic, and yet this has been done by the Court of Chancery in the case of Monmouth School (3 Russ. 530), and in other cases. The foundation of Monmouth school consists of an almshouse, a free grammar-school for the education of boys in the Latin tongue, and other more polite literature and erudition, and a preacher The letters patent declared that "all issues and revenues of lands to be given and assigned for the maintenance of the almshouse, school, and preacher, should be expended in the sustentation and maintenance of the poor people of the almshouse, of the master and under-master of the school, and of the preacher, and in repairs of the lands and possessions of the charity." Notwithstanding this, the Court of Chancery appointed a writing-master at a salary of 60*l.* per annum, to be paid out of the issues and revenues, and thus it took away 60*l* per annum from those to whom the founder had given it This was done on the authority of a case in the year 1797, which was itself a bad precedent, and notwithstanding that Lord Eldon, during the long time that he held the great seal, had constantly opposed such application of funds which were appropriated solely to grammar purposes.

Lord Eldon's decision in the case of Market Bosworth School (Attorney-General *v.* Dixie, 3 Russ. 534) established an usher in the school, whose sole occupation was to be to instruct the scholars in English, writing, and arithmetic, and it gave the usher a salary of 90*l.* per annum out of the school-funds. But in doing this Lord Eldon merely did what the donor intended. Market Bosworth is one of those grammar-schools in which the founder has directed that other things should be taught besides

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* See page 66 of 'Observations on Grammar-schools,' by Daniel Finch, hereafter referred to

Latin and Greek. According to the statutes, the school was to be divided into two branches, the lower school and the upper, and "in the first form of the lower school shall be taught the A B C, Primer, Testament, and other English books." In the upper school the instruction was confined to Latin, Greek, and Hebrew. It is therefore in this case as clear that the founder's intention was carried into effect by the decree of the court, as it is clear that in the case of the Monmouth School such intention was violated. The case of Monmouth School however furnished a precedent, which has been followed in other cases; and Sir J. Leach, in the case of Sherburn School and Hospital (Att.-Gen. *v.* Gascoigne, 2 M. & K., 647), said that "he was glad of an opportunity of holding, upon the authority of the case before Lord Lyndhurst (the Monmouth School case), that the teaching of writing and arithmetic might be well introduced into a scheme for the management of a free grammar-school."

There are many grammar-schools, probably a considerable majority of the whole number, in which nothing is provided for or nothing intended by the founder except instruction in grammar, which, as the term was then understood, appears to have meant only the Latin and Greek languages. Where provision is made for other instruction in addition to, or rather as preparatory to, the grammar instruction, similar modes of expression have often been used by the founder or the makers of the statutes. In the founder's rules for the grammar-school of Manchester, which has now an income of above 4000*l.* per annum, it is said, "The high-master for the time being shall always appoint one of his scholars, as he thinketh best, to instruct and teach in the one end of the school all infants that shall come there to learn their A B C, Primer, and sorts, till they being in grammar," &c. In all cases of grammar-schools where this instruction is to be given, it was evidently intended as a preparation for and not as a substitute for grammar. It was therefore clearly an abuse in the case of the Highgate School to have converted it into a mere school for reading, writing, and arithmetic; but it is equally an abuse in the case of the Manchester School to make the following regulation as to the admission of pupils, which was in force at the time of the Charity Commissioners' Inquiry: "All boys who are able to read are admitted on application to the head master into the lower school, where they are instructed in English and the rudiments of Latin by the master of that school. They are so admitted about the age of six or seven."

Grammar-schools have now for a long time been mainly regulated by the Court of Chancery, which, though affecting merely to deal with them in respect of the trusts and the application of the trust-moneys, has in fact gone much further. On the whole it has perhaps done as much against the intention of founders—and therefore wrongfully, its professed doctrine being to carry the founder's intentions into effect—as it has for furthering the intentions of founders. In saying this, it is not meant to say that it has done more harm than good.

The court may be applied to for the purpose of establishing a school where funds have been given for the purpose, and the object cannot be effected without the aid of the court. It may also be applied to for the purpose of correcting such a misapplication of the funds as in the case of the Highgate School, which in that instance was equivalent to establishing it. The court may also be applied to, which is a common case, in order to sanction the application of the school funds when they have increased beyond the amount required for the purposes indicated by the founder. In this last case, however, if the school is a grammar-school, though the court will apply part of the funds to other purposes than grammar, as appears by the case of the Monmouth School, still it keeps mainly in view the fact of such school being for grammar, in directing the application of surplus funds. Accordingly such surplus funds are often applied in establishing exhibitions or annual allowances to be paid to meritorious boys, who have been educated at the school, during their residence at college. The master's scheme for the regulation of Tunbridge School in Kent, which was confirmed by the Court of Chancery, established 16 exhibitions of 100*l.* each, which are tenable at any college of either university, and payable out of the founder's endowment. It also extended the benefits of the school beyond the limits fixed by the founder, and made various other regulations for the improvement of the school, having regard to the then annual rents of the school estates; as hereafter is more particularly mentioned.

When the application has been an honest one, the schemes sanctioned by the Court of Chancery may generally be considered as aiming at least to carry the founder's intention into effect, and as calculated on the whole to benefit the school. But in some cases decrees have been obtained by collusion among all the parties to the suit, against which it is no security that the attorney-general is a necessary party to all bills and informations about charities. The founder of a school and hospital in one of the midland counties, among other things appointed that "the schoolmaster should be a single person, a graduate in one of the universities of Oxford or Cambridge," &c.; and he did "further will that if any schoolmaster so to be chosen should marry or take any woman to wife, or take upon him any cure of souls, or preach any constant lecture, then in every of the said cases he should be disabled to keep or continue the said school." The trustees dispensed with these restrictions and qualifications, but afterwards finding that they could not do this, they applied to the Court of Chancery, conceiving that the court had full power, or would at least assume the power, to alter the founder's rules. And they judged right. The court ordered, among other things, that a clergyman should be the head master, though the founder did not intend to exclude laymen; and that the head master was not to be restricted from marrying or taking upon him the cure of souls, &c. This mode of dealing with a founder's rules has not much appearance of an attempt to carry them into effect. If the court can dispense with the restriction as to marriage in such case, there seems no reason why it might not assume a similar dispensing power in the case of fellowships in colleges.

This clause about marrying occurs in the rules of several grammar-schools, for instance in those of Harrow School. John Lyon, the founder of Harrow School, had a wife himself, but he ordered and ruled that the head master and usher of his school shall be "always single men unmarried;" if the master or usher marry, they are to be deprived. John Lyon's reasons for the rule are not stated, but the reasons may be the same as those for imposing celibacy on fellows of colleges, whatever those reasons are. The rule may be wise or unwise; but it was once observed, and it ought to be observed still until it is altered.

It remains to mention another matter that concerns the management of grammar-schools and the qualification of the masters. It appears from the rules of many grammar-schools that religious instruction according to the principles of the Church of England, as established at the Reformation, is a part of the instruction which the founder contemplated; and when nothing is said about religious instruction, it is probable that it was always the practice to give such instruction in grammar-schools. That it was part of the discipline of such schools before the Reformation cannot be doubted, and there is no reason why it should have ceased to be so after the Reformation, as will presently appear. It is generally asserted that in every grammar-school religious instruction ought to be given, and according to the tenets of the Church of England; and that no person can undertake the office of schoolmaster in a grammar-school without the licence of the ordinary. This latter question, it is supposed, was decided in the case of Rex *v.* the Archbishop of York. (6 *T. R.*, 490.) A mandamus was directed to the archbishop ordering him to license R. W. to teach in the grammar-school at Skipton in the county of York, to which he had been nominated and appointed. The return of the archbishop was, that the licensing of schoolmasters by the ancient canon law used and practised in England, belongs to the archbishops and bishops of England: that R. W. had refused to be examined; and he relied as well on the ancient canon law as upon the canons confirmed in 1603 by James I. (*The Constitutions and Canons Ecclesiastical*, "Schoolmaster," 77, 78, 79.) The archbishop thus claimed the power of licensing all schoolmasters, but the matter was determined upon the case to which the return applied, namely, his power to refuse his licence to the master of this grammar-school. The return was allowed, and consequently it was determined that the ordinary has power to refuse his licence to masters of grammar-schools. As to schoolmasters generally, the practice of obtaining the licence of the ordinary is discontinued, and probably it is not always observed in the case of masters of grammar-schools.

The form of the ordinary's licence is as follows:—"We give and grant to you, A. B., in whose fidelity, learning, good conscience, moral probity, sincerity, and diligence in religion we do fully confide, our licence or faculty to perform the office of master of the grammar-school at B., in the county, &c., to which you have been duly elected, to instruct, teach, and inform boys in grammar and other useful and honest learning and knowledge in the said school allowed of and established by the laws and statutes of this realm, you having first sworn in our presence on the Holy Evangelists to renounce, oppose, and reject all and all manner of foreign jurisdiction, power, authority, and superiority, and to bear faith and true allegiance to her majesty Queen Victoria, &c., and subscribe to the thirty-nine articles of religion of the United Church of England and Ireland, and to the three articles of the thirty-sixth canon of 1603, and to all things contained in them, and having also before us subscribed a declaration of your conformity to the Liturgy of the United Church of England and Ireland as is now by law established. In testimony," &c.

From this licence it appears that the master of every school who is licensed by the ordinary must be a member of the Church of England, and must take the oath and make the subscriptions and declarations which are recited in the licence.

This question as to the bishop's licence does not, however, seem to be free from difficulty. In the case before the Court of King's Bench, already referred to, Lord Kenyon observed, in delivering his opinion, "that the counsel of the archbishop very properly laid his foundation deeper than the canons of 1603; he resorted to the ancient canons received in this country long before, and properly said it was immaterial whether they were made in this kingdom or at the councils of Lateran or Trent; for that as they had been received and adopted here, they had acquired the force of laws in this country; and to be sure, if this were not so, the world has been deceived on this subject; and not only the judges in making the several determinations upon this branch of the law, but all the text writers also have been under a mistake. In deciding this case we may rely on what Lord Keeper Wright said in Cox's case (1 P. Williams, p. 29), that keeping of schools is, by the old laws of England, of ecclesiastical cognizance; the several instances cited by Oughton (*ordo judiciorum*) go a great way to prove this, and the statutes referred to—23 Eliz. c. 1; 2 Jac. I. c. 4; and 13, 14 Car. II. c. 4—recognise the power of the ordinary to license schoolmasters. Then on what ground and for what reason is that licence required? By reference to analogous cases, I answer, that the ordinary may examine persons, ecclesiastical persons, presented to him for institution." The learned judge concludes thus:—"Therefore on the ancient ecclesiastical law adopted in this country in early times, and now forming part of the law of the land, on the statute law, on the authority of the two adjudged cases (Cox's and Rushworth's, 2 Str. 1023, and Com. 418), on the analogous cases of ecclesiastical persons presented to the ordinary for institution, and on the expedience of the thing, I am clearly of opinion that this return ought to be allowed."

One cannot assent to the expedience of the thing as being part of a legal reason. The other reasons, if true, are sufficient. In the rules of some grammar-schools (Tunbridge school for instance, as hereafter quoted, which were made in the reign of Elizabeth), the schoolmaster, after being chosen by the governors of Tunbridge School, is to be first allowed by the ordinary after examination both in learning and religion. In such a case the ordinary's licence is undoubtedly as necessary to the appointment of a master as the governors' choice; but the existence of such a rule seems to render it probable that in the time of Elizabeth the ordinary's licence was not necessary, unless the founder's rules made it so. The form of the licence supposes the master to have been already duly elected, and, consequently, independent of the licence, he has every right, as master of the school, except that, if any, which the licence affects to give. Now the licence merely affects to give the master permission to teach boys in grammar, &c., on the previous condition of his having taken the oaths mentioned in the licence. If the master refuse to take the oaths, the bishop will refuse his licence. But the master if duly elected will still be master, and he will certainly have been duly elected, if the founder has not made the bishop's approval necessary; and if the bishop's approval is made necessary by the founder's rules, the master is not full master till he has obtained the licence. If the bishop's licence is not made necessary by the founder's rules, the master when duly elected is entitled to the master's salary; and it is his duty to teach the scholars. If the bishop's licence in such case is to go for anything, he must have some means of silencing the master, but what those means would be at present it is not easy to conceive.

It is the custom in some grammar-schools at the present day, and it may be the custom in all grammar-schools, for anything that the writer knows to the contrary, for the master to obtain the ordinary's licence, even when the founder's statutes have not required it: and this appears to have been the case in Rex *v.* the Archbishop of York. This case, however, is clearly misunderstood, when it is alleged as one of those which show "that no person can undertake the office of schoolmaster in a grammar-school (not the mere duty of giving extraneous instruction, such as writing or arithmetic, but the general charge of the scholars, or of any class in the school) without the licence of the ordinary, to whom it belongs to examine, both as to his sufficiency in learning, and as to his sufficiency with regard to morality and religion."—(Mr. Finch's Observations, &c., p. 51.) The case of Skipton School is also reported as to a dispute concerning the right to nominate and appoint the master (6 T. R. 388); and it does not appear, from the report on this point, that the founder had made the Archbishop's licence necessary in order to the validity of the master's appointment. After the dispute about the appointment was settled, the master who had been appointed applied to the Archbishop for his licence to teach in the school: a fact which renders it probable that such licence had been usual. The Archbishop offered to examine the master "touching his fitness and sufficiency in learning to be the schoolmaster of, and to teach in, the grammar-school, and required him to submit to be examined touching his fitness and sufficiency." Widnell, the master, refused to be examined, and applied to the court for the mandamus which directed the ordinary to license him. The court, for the reasons already stated, allowed the ordinary's return,—thus declaring that the ordinary, in such cases, did not act ministerially, and that he might exercise his own judgment as to the fitness of the person who applied to him for a licence. But the court did not determine anything as to the necessity of the Archbishop's licence, though it was clear that the master, originally at least, thought the licence necessary, or he would not have applied for it, and the court by no means denied, but rather admitted, the necessity of the licence. Still the necessity of the licence was not the matter in dispute, nor the matter that was decided. The matter determined was simply this: the court admitted that the ordinary had the power of granting his licence on his own terms.

It is a notion not uncommon at the present day, that the master of a grammar-school must be a graduate of one of the universities and in holy orders. There are however grammar-schools in which the statutes do not require the master to be a graduate, and in some of such schools, at least, the present masters are not graduates. These schools are generally schools with only small endowments, and they are not of the older class of grammar-schools. It is also by no means always the case that the rules of endowed schools require the master to be in holy orders. The founders seem generally to have considered this a matter of indifference, but many of them provided that, if the master was in orders, or took orders, he should not at least encumber himself with the cure of souls. The following, which is the usual form of the article as to this matter, is from Sir Roger Manwood's Statutes for his Grammar-School of Sandwich:—"Art. 10. Item, I ordeine that the master and usher be at libertie either to remaine single or to marie, or take priesthoode, so he trouble not hymselfe with any benefice of cure or worldly business, in such wise that shall hinder his office and diligent atteindance in the school." The principle clearly was, that the master of a grammar-school should devote himself solely to that work; and it was a good principle. The Court of Chancery, as we have seen, has in various cases ordered that the master should be a clergyman, where the founder has not so ordered. In the case of Highgate School the statutes do not require the master to be in holy orders; but this condition was added by the Scheme of the Master in Chancery. The statutes of this school, however, order that the master shall read prayers in the chapel, which seems to imply that he should be in holy orders. Dean Colet, the founder of St. Paul's School, London, ordered by his statutes that neither of the masters of that school, if in orders, nor the chaplain, shall have any benefice with cure or service which may hinder the business of the school. He appointed a chaplain to the school (who, we believe, has since been turned into a master), thereby appearing to intend that the religious instruction should not be given by the masters of grammar, who would be fully employed otherwise.

It has sometimes been doubted whether a master of a grammar-school could hold ecclesiastical preferment with it. If the founder has not forbidden this, there is no rule of law which prevents him. If the holding of the two offices should cause him to neglect the duties of either, the remedy is just the same as if he neglected either of his offices for any other cause.

Many grammar-schools are only free to the children of a particular parish, or of some particular parishes; but this privilege has occasionally been extended to a greater surface, as in the case of Tunbridge School. Some are free to all persons, which is the case with some of King Edward VI.'s endowments. Sometimes the number of free boys is limited, but the master is allowed to take pay scholars, either by usage or by the founder's rules. Harrow School was intended for the free instruction of the children of Harrow parish, but the governors, with the consent of the master, can admit other children into the school. At present the practice is for all masters of grammar-schools to take boarders if they choose, but in some cases the number is limited. Abuses undoubtedly have arisen from the practice of the master taking boarders, and the children of the parish or township for which the school was intended have been neglected or led to quit the school sometimes in consequence of the head master being solely intent on having a profitable boarding-school. But it is certain that in most cases the school has benefited by the master taking boarders; and this has frequently been the only means by which the school has been able to maintain itself as a grammar-school. When the situation has been a good one, an able master has often been found willing to take a grammar-school with a house, and a small salary attached to it, in the hope of making up a competent income by boarders. As this can only be effected by the master's care and diligence in teaching, a small neighbourhood has thus frequently enjoyed the advantage of its grammar-school, which otherwise would have been lost.

There has never been any general superintendence exercised over the endowed schools of this country. The Court of Chancery only interferes when it is applied to, and then only to a certain extent; and visitors are only appointed for particular endowments; they are also often ignorant of their powers, and they rarely exercise them. As many of these places have only small endowments, are situated in obscure parts, with the property vested in unincorporated trustees, who are ignorant of their duty, and sometimes careless about it, we may easily conceive that these schools would be liable to suffer from fraud and neglect, both of trustees and masters; and this has been the case. The object of the statute of Elizabeth was to redress abuses in the management of charities generally; but a great many endowments for education were excepted from the operation of that statute, which indeed seems not to have had much effect, and it soon fell nearly into disuse. Applications for the redress of abuses have, from time to time, been continually making to the Court of Chancery, and Berkhampstead School has now, for a full century, been before the court. In many cases the governors of schools have obtained acts of parliament to enable them better to administer the funds. This was done in the case of Macclesfield School by an act of the year 1774, and another for the same school has recently been obtained. An act of parliament was also obtained in 1831 for the free-school of Birmingham, the property of which had at that time increased considerably in value, and is still increasing. Both these schools were foundations of Edward VI., and were endowed with the property of suppressed religious foundations. Birmingham School is now one of the richest foundations of the kind in England. The original constitution has been altered by the act of parliament, previous to obtaining which the school had been the subject of a suit in Chancery. A brief statement of the proceedings in the suit and of the chief provisions of the act of parliament will perhaps convey a clearer notion of the mode in which business of this kind is conducted, than any general remarks.

The Free Grammar-School of Birmingham was founded by Letters Patent of Edward VI. in the fifth year of his reign. The letters patent, which are in Latin, constituted certain persons therein named to be the first governors of the possessions, revenues, and goods of the Free Grammar-School of King Edward VI. in Birmingham, and made them a body corporate. The letters patent granted to the corporation all the messuages, lands, tenements, &c., of the then late Guild of the Holy Cross in Birmingham, which had come to the king's hands by reason of the act for dissolving chantries, guilds, fraternities, and free chapels, that had been passed in the first year of the king's reign. The clear yearly value of the lands thus granted is stated in the letters patent to be 21*l*. The letters patent empowered the governors to nominate and appoint a pedagogue and sub-pedagogue of the school: and with the advice of the bishop of the diocese to make fit and wholesome statutes and ordinances in writing for the order, government, and direction of the pedagogue and sub-pedagogue and scholars of the aforesaid school for the time being, and of the stipend and salary of the said pedagogue and sub-pedagogue, and otherwise touching and concerning the said school, and the order, government, preservation, and disposition of the rents and revenues to the sustentation of the said school appointed or to be appointed; which statutes and ordinances, so to be made, his Majesty willed, granted, and by the said letters patent commanded inviolably to be observed from time to time for ever. The letters patent further empowered the governors of the school to have, receive, and purchase to them and their successors for ever for the sustentation and maintenance of the said school, as well of his Majesty, his heirs and successors, as of any other person or persons, manors, messuages, lands, tenements, rectories, tithes, and other hereditaments within the kingdom of England, or elsewhere within his Majesty's dominions, so that they do not exceed the clear yearly value of 20*l*. over and above the said messuages, lands, tenements, and other premises to the said governors and their successors by his said Majesty in form aforesaid granted, the statute of lands and tenements in mortmain, or any other statute, act, ordinance, or provision, or any other thing, cause, or matter whatsoever to the contrary thereof had, made, published, ordained, or provided in anywise notwithstanding. And his Majesty willed, and by the said letters patent ordained, that all the issues, rents, and revenues of the lands, tenements, and possessions aforesaid, and in future to be given and assigned to the sustentation of the said school from time to time be applied to the sustentation of the pedagogue and sub-pedagogue of the aforesaid school for the time being, and not otherwise, nor to any other uses or intentions.

The above will serve as a specimen of the general form of letters patent for the foundation of grammar-schools.

In the year 1824 an information and bill were filed in the High Court of Chancery, in which the governors of the school were the plaintiffs, and the Bishop of Lichfield and Coventry and the pedagogue and sub-pedagogue were defendants. By a decree of the Master of the Rolls of the 14th of July, 1825, it was declared that the Charity intended to be established by the said Letters-Patent was a Free Grammar-School for the instruction of boys and youths in the learned languages, and it was referred to one of the Masters of the Court of Chancery to inquire into the then present state and condition of the establishment of the said charity, and what estates and other property were then vested in the governors thereof upon trust for the same, and what was the then present amount of the annual income of the said charity estates and property; and the said Master was to be at liberty to state any special circumstances as to any future increase of such annual income, which might appear to him to be likely to take place, as he should think fit; and it was ordered that the said Master should settle and approve of a Scheme for the future establishment of the said Free Grammar-School, having regard to the declaration thereinbefore made, and to the then present amount of the annual income of the said charity estates and property, and to any future increase thereof which might appear to him to be likely to take place; and also having regard to the several statutes or orders from time to time made or agreed to by the governors of the said charity, with the advice of the Bishop of Lichfield and Coventry, so far as such statutes or orders respectively were consistent with the intention of the said letters patent, and so far as the same might appear to be beneficial to the said Free Grammar-School; and it was ordered among other things that the said Master should inquire and state to the Court whether it would be for the benefit of the said charity that the then present school-house, masters' houses, and buildings belonging thereto, or any part thereof, should be rebuilt: and if the said Master should be of opinion that the same or any part thereof ought to be rebuilt, then it was ordered that he should inquire and state to the Court what sum of money would be proper to be applied for that purpose, and by what means such sum of money should be raised.

By another order of the Court of Chancery, of the 22nd day of January, 1828, it was referred to the Master to inquire and state to the Court, among other things, whether it would be for the benefit of the charity that the school-house, masters' houses, and other buildings, should be rebuilt on the present site, or upon a new site; and if he should be of opinion that they should be rebuilt on a new site, he was then to inquire and state to the Court what would be an eligible site, and how such site should be procured, &c. It was also ordered that he should inquire in what way it would be best to apply the surplus revenue of the said charity estates, after satisfying the objects of the Scheme approved, or to be approved of by him, for the future establishment of the said Free Grammar-School, and the said Master was to state the same to the Court; and it was ordered that the said Master should also inquire and state to the Court whether it would be fit and proper that an application should be made to parliament for effectuating the objects and purposes thereinbefore mentioned, or any of them.

In pursuance of the decree of the 14th July, 1825, the Master made his separate report, bearing date the 9th day of March, 1829, and thereby certified among other things that he had settled and approved of a scheme for the future establishment of the said Free Grammar-School. This Scheme was varied and amended by a decretal order of the Court of Chancery, dated the 7th day of June, 1830. The Scheme, so varied and amended, contained among other things the following regulations, from which it will appear what amount of change was thus made in the Free Grammar-School as constituted by the letters patent. Some of these regulations were doubtless old regulations made by the Governors and Bishop, but, being introduced into the Master's scheme, they must virtually be considered as constituting part of it.

2. The Grammar-School founded under the charter to be conducted by the Head Master and an assistant to the Head Master, the Usher and an assistant to the Usher.

3. A master of Writing and Arithmetic to be appointed by the governors, who shall pay him a salary of 100*l.* out of the rents of the charity estate.

4. The Head Master and the Usher (called in the letters patent Pedagogue and Sub-Pedagogue) to have at least the degree of Master of Arts of the University of Oxford or Cambridge, to be members of the Established Church of England, and in holy orders, but not to hold any ecclesiastical office requiring them to perform in person weekly parochial duty.

5, 6, 7. The Head Master to have a salary of 400*l.*; and that certain lands in the parish of Birmingham, the rents and profits of which were appropriated to the use of the Head Master, shall be vested in the governors for the use of the school, freed and discharged from all right or claim of any future Head Master.

8. The Usher to receive a salary of 300*l.*

10. That the Head Master and the Usher for the time being shall respectively nominate and present his assistant to the governors for their approbation or rejection.

11. The assistants to be members of the Established Church of England, and to have taken the degree of Bachelor of Arts, or Civil Law, at the least, in one of the universities of Oxford or Cambridge; but it is not required that they shall be clergymen. The governors to pay to each of the assistants a salary of 200*l.* out of the rents of the estates.

13. The Head Master and Usher each to have power to remove his assistant, subject to the approbation of the governors, whose decision is to be final; and the governors to have such further power of removal as is given to them in 14.

14 Provides for the removal of the Master, Usher, assistants, and writing-master by the governors, with the approbation in writing of the bishop of the diocese.

15 Empowers the governors, with the advice of the bishop of the diocese, to pension the Head Master and Usher, when they shall be unable to discharge their duties on account of permanent illness or infirmity.

16 Empowers the Head Master, Usher, and assistants, to take respectively a limited number of boarders.

18. That all boys, who are not sons of inhabitants of the town, parish, or manor of Birmingham, or of the parishes, townships, or hamlets touching upon or adjacent to the same, shall pay for their education at the school such annual sum as the governors, with the advice of the bishop, shall from time to time fix.

20 Provides for the establishment of ten exhibitions of 50*l.* a-year each for the boys of the school who shall go to the universities of Oxford or Cambridge.

21, 22, 23 Provide for one annual visitation of the school, and for the appointment of three examiners, who shall be of not less than seven years' standing at and resident members of one of the universities of Oxford or Cambridge. The examiners shall examine the boys to ascertain their proficiency in learning, and whether they appear to be instructed and well grounded in the fundamental principles and doctrines of the Christian religion; but no boy is to be subjected to such examination in religion, if his parents or guardians shall, in writing, state to the examiners that they object to that part of the examination.

24, 25, 27 Provide for the examination of candidates for the exhibitions, and give a preference to boys duly qualified; who are sons of inhabitants of the town, parish, or manor of Birmingham, and among such boys, in case of equality in classical attainments, the governors may give the exhibitions to such of the said boys as shall appear to them, from pecuniary circumstances or otherwise, best entitled to the object of their bounty: these are followed by other provisions for giving the exhibitions, in case there are no candidates duly qualified among the sons of inhabitants of the town, parish, or manor of Birmingham.

31 Empowers the governors, with the advice of the bishop, to make statutes or ordinances for the purchase of books for a library, for the use of the school.

33 Empowers the governors, with the advice of the bishop, generally to make fresh statutes and ordinances touching and concerning the said school, and the order, government, preservation and disposition of the rents and revenues to the sustentation of the school, appointed or to be appointed; and also from time to time to repeal or vary any of the present or future statutes, and to make others in lieu thereof; and all such statutes are to be considered as and to be part of the Scheme for the future establishment of the said Free Grammar-School, and to be, from time to time, added to the other articles herein set forth, so as such further statutes or orders shall be consistent with the charter and object and intentions of this present Scheme.

34 Reserves to the governors, or the major part of them, at all times, power, they taking the advice of the said bishop, to make such regulations respecting the said Free Grammar-School as, having relation to the aforesaid several articles are not inconsistent with the same; and also such regulations as, having no relation to the said articles, the said governors, or the major part of them, had authority to make prior to the institution of this suit, the same being made with the advice of the said bishop where it was requisite for the governors to act with such advice, and without it where such advice was not necessary.

The Bishop of Lichfield and Coventry excepted to the 6th, 15th, 16th, 18th, 31st, 32nd, and 33rd articles of the Scheme contained in the Master's Report, "for that the said Master thereby authorised the governors of the said Free Grammar-School to exercise certain powers and authorities therein more particularly mentioned and set forth, with the advice of the Bishop of Lichfield and Coventry;" whereas the bishop contended that, according to the true meaning of the letters patent, an English translation of which was set forth in the said Report, and in which translation the bishop objected to the version given of the words *cum advisamento*, and according to the usage which had for a long series of years prevailed (as appeared by the said Report) with respect to making the statutes and ordinances which had hitherto been made, the said Master ought to have provided in the said Scheme, that all such powers and authorities so given by the said articles of the said Scheme to the governors, should be executed by them, with the concurrence or with the approbation, or else with the advice and consent of the said bishop, or at all events not without the concurrence, or without the approbation, or without the advice and consent of the said bishop. The bishop also made the like objection to the power given to the governors by the 13th article, as to their decision being final.

The exceptions were argued before the Lord Chancellor on the 14th of August, 1829, and were overruled, and the Report was duly confirmed. Probably it was thought that the words, "with the advice," contained in the said articles of the Scheme, meant all that the bishop wished to secure to himself and his successors by the words "with the concurrence," &c.

The Master made his General Report on the 27th day of April, 1830, comprising a statement as to the condition of the then school-buildings, the income of the school, and its future increase. The Report stated, that the income of the charity estates for the year ending Lady-day, 1829, amounted to 3165*l.* 7*s.* 9*d.*, and it showed how this income would go on increasing until the year 1844, when the total income would amount to 8544*l.* 7*s.* 9*d.* The Report further stated, that it would be of great benefit to the inhabitants of Birmingham if a school were established for the education and instruction of boys in modern languages, the arts, and sciences; and that it would be proper that an application should be made to Parliament for an Act to authorise and empower the governors to effect the several objects approved of in the Report. This General Report was confirmed by an order of the Court of Chancery, bearing date the 28th of April, 1830; and by a Decretal Order of the same Court, dated the 4th of May, 1830, it was, among other things, ordered, that the said Free Grammar-School should be established and conducted according to the Scheme stated in the said separate Report of the said Master, dated the 9th of March, 1829, and that the said governors should be at liberty to apply to Parliament for an Act for the several purposes mentioned in the said Master's General Report, bearing date the 27th day of April, 1830.

By a further Decretal Order of the Court of Chancery, dated the 7th of June, 1830, it was ordered, that the said Decretal Order, dated the 4th of May, 1830, and the Scheme therein referred to, should be varied and amended in manner therein mentioned; and that the said Free Grammar-School should be established and conducted according to the said Scheme as so varied and amended. This is the Decretal Order before referred to, by which the Scheme was so varied and amended as to appear in the form already set forth, so far as such Scheme has been hereinbefore set forth.

In the year 1831 an Act was obtained, intituled "An Act to enable the Governors of the Possessions, Revenues, and Goods of the Free Grammar-School of King Edward the Sixth, in Birmingham, in the County of Warwick, to erect a School House, Masters' Houses, and other suitable Accommodations for the said School, and to extend the Objects of the Charity, and for other purposes."

This Act empowered the governors, among other things, to build a new Grammar-School under the direction of the Court of Chancery, which has been done; and to build, also under the direction of the Court of Chancery, a new school for teaching modern languages, the arts and sciences. The Act also enacted, that it should be lawful for the governors, and they were thereby required within eight years after the passing of the Act, to appropriate a sum not exceeding 4000*l.*, in order to build and establish upon the charity estates four schools for the elementary education of the poorer inhabitants of the town, parish, and manor of Birmingham, and to nominate and appoint masters and mistresses with such salaries payable out of the rents of the charity estates as the said governors shall think right, to conduct the same schools upon such plans of instruction and under such regulations as the said governors shall, from time to time, by statutes under their common seal, with the advice of the bishop of the diocese, think expedient and advantageous; and the governors are authorised to remove any such masters or mistresses for just causes and to appoint others in their stead.

The Act enacted, that the said Free Grammar-School shall be established, regulated, and managed according to the rules and regulations contained in the said Scheme, so varied and amended as aforesaid (with one exception presently to be mentioned), as to all particulars to which the same rules and regulations shall apply (including the powers of repealing and varying any present or future statutes, and of adding new articles, as in the said Scheme mentioned), or according to any Scheme or Schemes which shall hereafter be approved of by the said Court of Chancery, anything in the said letters patent, or any statute, ordinance, or usage to the contrary thereof in anywise notwithstanding.

The exception just alluded to is as to the number of boarders that the masters may take. The Act empowers the Head Master to take into his house 18 boarders, the Usher 12, and each of the other assistants 4 each; but no future assistant is to take any boarders. The Act also deprives the governors of all power to increase the number of boarders to be taken by the respective masters.

The Act also declares that the new school for teaching the modern languages, arts and sciences, shall be established and regulated according to a Scheme or Schemes for that purpose, to be confirmed and approved of from time to time by an order of the High Court of Chancery, to be made in a summary way upon a petition preferred to the said Court by the said governors. All future surplus revenues of the charity are to be applied as the Court of Chancery shall direct, for improving, enlarging, extending, or increasing the said Free Grammar-School, the said new school for teaching modern languages, the arts and sciences, and the said elementary schools, or either of them, or for promoting the objects of the said respective schools.

The Act also enacts that nothing therein contained shall be deemed, construed, or taken to abridge or alter any powers or authorities to which the Lord Bishop of Lichfield and Coventry for the time being, under the said Letters Patent, or under the said Scheme, is or may be entitled immediately before the passing of the Act; provided always, that in case any question, dispute, or difference shall at any time hereafter arise between the said bishop and the governors touching the extent of the said powers or authorities, or any of them, or in relation theret then it shall and may be lawful for the bishop to apply to the Court of Chancery by information and bill, or in a summary way by petition, to obtain the decree or order of the Court upon the subject-matter of such question, dispute, or difference, and all the costs, charges, and expenses of such proceedings, shall be paid and allowed to both or either of the said parties, as the Court may think fit, out of the revenues and estate of the school.

The Act further enacts, that an abstract of the accounts of the income and expenditure of the revenues arising from the school estates shall be hereafter published by the governors once in the month of June in every year, in some one newspaper printed and published within the town of Birmingham.

Tunbridge School, in Kent, is another of our richly endowed grammar-schools, the rules of which have been somewhat varied by a Scheme, and the benefits extended, but without the aid of an Act of Parliament. This school was founded by Sir Andrew Judde, knight, a native of the town of Tunbridge. He acquired a large fortune in London by the trade in furs; and he served the office of Lord Mayor in 1550. Sir Andrew died in the year 1558. Holinshed says of Sir Andrew Judde (*sub anno* 1550):—"Sir Andrew Judde, for this year maior of London, and skinner, erected one notable Free School at Tunbridge, in Kent, wherein he brought up and nourished in learning grte store of youth as well bred in that shire as brought up in other counties adjoining. A noble act, and corresponding to others that have been done by like worshipful men, and others in old time, in the same cittie of London."

Sir Andrew Judde obtained a charter from King Edward VI. in the year 1553, which empowered him to buy land within a limited value for the endowment of his school. He bought some property for this purpose, which had formerly been part of the possessions of the Carthusians, from two persons, Gates and Thorogood, who had obtained it after the dissolution of the religious houses. This property was conveyed to Sir Andrew and Henry Fisher, in trust for the maintenance of the school, and this property formed the endowment of the school during Sir Andrew's lifetime. After his death, Henry Fisher conveyed the property to the Skinners' Company for the same uses. Some dispute arising about this property on the part of Andrew, the son and heir of Henry Fisher, it was confirmed to the Company, and declared to be held by them for such goodly uses as are mentioned in the charter by two Acts of Parliament, 14th and 31st of Elizabeth. By his will, executed in 1558, a short time before he died, Sir Andrew devised certain lands and houses to the Skinners' Company, "for the perpetual maintenance of the school that he had erected at Tunbridge." Judde Place East and West, Tunbridge Place, Burton Crescent, Mabledon Place, Bidborough, Hadlow, Speldhurst, and Leigh Streets, in London, and many others in Pancras parish, are situated on this property. There is also other property in Gracechurch Street, Cornhill, Bishopsgate, and other places in the city of London. By his will, Sir Andrew devised to the Skinners' Company, among other lands, the same lands that he had already given for the endowment of the school. He also by his will directed the same annual stipends for the Master and Usher as he had particularized in the ordinances made in his lifetime, under the authority of the charter; and after some other small gifts, he gave the "overplus," after the payment of the reparations, to the Skinners' Company, "to order and dispose of at their wills and pleasures."

For a long time this property was little more than sufficient to defray all the expenses with which it had been charged by the founder; but when the surplus rents became considerable, a question arose whether the Company held the lands given by Sir Andrew Judde in his lifetime under the will, or as governors of the school under Fisher's deed, as confirmed by the two Acts of Parliament. The building-leases granted on the property in Pancras Parish, and the improvements in Leadenhall Market, had raised the revenues to some thousands per annum. If the Company held the lands under the will, they were by its terms empowered to dispose of the surplus as they pleased; if under the deed and the Acts of Parliament, they held the surplus for the use of the school. It is not easy to see how there could be any doubt as to the right in which the Company held these lands. However, an information was filed in the Court of Chancery, which prayed that the Company might be declared trustees of the whole property for the uses of the school, and that a Scheme might be made for the appropriation of all the rents to the objects specified in the charter. On the cause being heard before the Vice-Chancellor, it was decided that the Skinners' Company were trustees of the whole property comprised in the Acts of the 14th and 31st of Elizabeth, for the benefit of the school, and it was referred to the Master to approve of a Scheme for the appropriation of the surplus revenues to the purposes of the foundation. The Skinners' Company appealed from the Vice-Chancellor to the Lord Chancellor (Eldon), who confirmed the Vice-Chancellor's decision. As to the property which passed only by the will, and was not included in the purchase made from Gates and Thorogood, it was subsequently decided by the Chancellor that the Skinners' Company are entitled to "order and dispose of the overplus," subject to the charges upon it by the will, according to their pleasure. At the expiration of all the present leases, it is stated that the endowment of Tunbridge School will be the most valuable in the kingdom.

The Report of the Master, to whom it was referred to approve of a Scheme for the future establishment of the school, was dated the 24th day of December, 1824. By this Report the Master certified that, having considered the several Schemes that had been laid before him, together with the letters patent and the orders and statutes of Sir Andrew Judde, he had thought it expedient that the privileges of the said Free Grammar-School should not only extend to boys and youths whose parents or guardians should *bonâ fide* reside within the town and parish of Tunbridge, but also to such boys and youths whose parents should reside in any other parish or place in the county of Kent, within 10 miles, by the ordinary roads and ways, from the church of the town of Tunbridge, which boys and youths should be considered as constituting the first class; and, that there might be a sufficient number of youths to receive the exhibitions hereafter mentioned, he had thought it proper and advisable that there should be another or second class, comprehending all boys and youths of the United Kingdom of Great Britain, who, being qualified under the regulations thereinafter mentioned, should be capable of receiving the said exhibitions; and the Master further certified that he had thought it requisite and proper to alter and enlarge several of the orders of Sir Andrew Judde, and that certain orders of Sir Andrew appeared to him to be inapplicable or unnecessary for the future government of the said school; and the Master being of opinion that exhibitions for youths going from the said school to Oxford or Cambridge might be most beneficially established, he had prepared such articles as appeared to him to be necessary for effecting that purpose, and also such other new articles as from the then present circumstances appeared to him to be necessary for the future government and establishment of the said Free Grammar-School.

By an order of the Chancellor, dated the 18th of July, 1825, the said Report as to the Scheme therein contained was varied in certain articles. The order reserved to the Skinners' Company, they taking the advice of All Souls' College in the University of Oxford, the power to make such regulations respecting the said Free Grammar-School, as, having relation to the plan by the said Scheme directed to be carried into execution, are not inconsistent with the said plan; and also such regulations as, having no relation to the said plan, the said Company had authority to make prior to the institution of the said suit, the same being made with the advice of the said college when it was requisite for the Company to act with such advice, and without it when such advice was not necessary.

The founder appointed no visitors of his school, but he directed the governors to act upon certain occasions with the advice of the Warden and Fellows of All Souls' College. There was some doubt who was the visitor of the school, but the Chancellor decided that All Souls' College was intended by the founder to exercise the functions of visitor.

The Scheme, as finally adopted, incorporated with some variations the statutes of the founder, and retained much of their language. The original Statutes were drawn up and signed by Matthew Parker, Archbishop of Canterbury, and Alexander Nowell, Dean of St. Paul's. These Statutes resemble those of many other schools which were founded about the same time; and it may be presumed that there was an original from which they were all derived. The following are among the principal articles:—

1. That the Master of the said school be whole of body, well reported, Master of Arts in degree, if it may be, chosen by the Company of Skinners of London, always foreseen that the Schoolmaster and Usher teach the grammar approved by the King or Queen's Majesty, and that the Schoolmaster be first allowed by the ordinary, and by examination found meet, both for his learning and dexterity in teaching, as also for his honest conversation, and for right understanding of God's true religion, set forth by public authority, whereunto he shall stir and move his scholars, and also shall prescribe to them such sentences of Holy Scripture as shall be most expedient to induce them to godliness.

2. The Master appoints the Usher, whom the Company must admit, not knowing sufficient cause to refuse him.

3, 4 Provide for the good behaviour of the Master and Usher.

5 Provides that, if the Master or Usher suffer under a curable sickness, he be tolerated for the time, and his wages allowed, so that his office be discharged by sufficient deputy; but if he falls into infectious or incurable disease, especially through evil behaviour, he is to be removed.

6. If the Master or Usher, after long time spent in the school, do wax impotent and unable through age or infirmities to endure the travail and labour necessary for the school, that he be favourably borne withal, so that his office be satisfied by his sufficient deputy, although he himself be not present.

7. That Master or Usher be at liberty to remain single or to marry, or to take priesthood, so that he trouble not himself with any care or worldly business that might hinder his office in the school.

12. Acknowledging God to be the only author of all knowledge and virtue, it is declared by the said Sir Andrew Judde, that the Master and Usher of the school, with their scholars, at seven of the clock, do first, devoutly kneeling on their knees, pray to Almighty God, according to the form to be by the Master prescribed.

13. That the Master, twice in a month at least, examine those that be under the Usher's hands, to understand how they profit and go forward in their learning.

15. That all the scholars, upon Sabbaths and holydays, resort in due time to divine service in the parish church of Tunbridge, the Master and Usher, or one of them at the least, being present to oversee them; and that the Master and Usher do duly, every Monday in the morning, call to reckoning all such of his scholars as shall either absent themselves from the parish church, or come tardy to it, or otherwise use themselves not reverently there in praying, every one of them having a prayer-book, in Latin or English, according to the said Master's appointment.

22. That the Master of the said school shall not take, or board, diet, or lodge in his house or rooms, above the number of 60 scholars, inclusive of the scholars mentioned in the sixth original order of Sir Andrew Judde; and that the Usher shall not take above the number of 40 scholars, inclusive of the eight scholars mentioned in the said sixth original order of Sir Andrew Judde, unless it shall seem convenient to the Company of Skinners that the said Master and Usher, upon occasion, may have a greater number at board and lodging with them.

26 Permits housekeepers in the town of Tunbridge to receive not exceeding 30 boys as boarders, who shall be scholars of the said Free Grammar-School, with the licence of the governors.

27 Raises the Master's salary from 20*l.*, given by Sir Andrew Judde, to 500*l.* per annum, and the Usher's to 200*l.* per annum.

28. That the annual sum of 7*l.* 10*s.* be paid by every boy who shall not be in the first of the aforesaid two classes described in the Master's Report, to the Master, and the annual sum of 3*l.* to the Usher, for his instruction in the said school.

29. That 16 exhibitions of 100*l.* a-year each be founded, as part of the establishment of the said school, for the boys thereof who shall go off to the University of Oxford or Cambridge.

30. That such boys as shall be of the first class of scholars, and shall be duly qualified to receive such exhibitions, shall be preferred.

31, &c., provide for the exhibitions being given to the most deserving candidates, for which purpose an examiner is to be appointed, who shall (35) also on every annual visitation publicly examine all the boys and youths in the said school to ascertain their progress in learning.

40. The exhibitions to be held for four years, according to the conditions set forth in this article; but by a rule since made by the Company, no boy is eligible to an exhibition from Tunbridge School until he shall have been for the space of five years a scholar of the same.

The following fellowships and exhibitions are appropriated to Tunbridge scholars, but it is believed that there are a few other exhibitions that for a long period have been lost by non-claim, but may perhaps be recovered.

A fellowship at St. John's College, Oxford, founded by Sir Thomas Whyte.

Sixteen exhibitions, of 100*l.* per annum each, tenable at any college of either university, and payable out of the founder's endowment.

Six exhibitions, of 10*l.* per annum each, tenable in like manner; founded by Sir Thomas Smythe.

One scholarship, at Brazenose College, Oxford, of 17*l.* 9*s.* 6*d.* per annum; founded by Mr. Henry Fisher.

One exhibition of 2*l.* 13*s.* 4*d.* per annum; founded by Mr. Thomas Lampard.

One exhibition of 8*l.* per annum (in default of scholars from Sevenoaks School); founded by Mr. Robert Holmedon.

Two exhibitions of 75*l.* per annum each, tenable at Jesus College, Cambridge (in default of scholars from Sevenoaks School); founded by Lady Mary Boswell.

Two exhibitions of 6*l.* per annum each; founded by Mr. Worral.*

It will easily be seen what part of the rules contained in the Master's Scheme for Tunbridge School are new, and what are the original Statutes. A comparison of them with those of Birmingham School, as now established by Act of Parliament, will show that the original constitution of Tunbridge School has been preserved in all essentials, while that of Birmingham has been materially changed. Tunbridge School is still a place of instruction according to the doctrines of the Church of England, as appears from articles 1, 12, 15. There is no such regulation among the rules for the government of Birmingham School, and by article 23 a boy may be excused all examination "in the fundamental principles and doctrines of the Christian religion," though such examination is one of the things for which examiners are appointed. This is a very singular provision to introduce among the rules of one of King Edward's foundations, and its effect is to destroy one of the chief objects which the king had in view in establishing these schools. For it can hardly be supposed that instruction in the "fundamental principles and doctrines of the Christian religion" forms a part of the school system, if the boys can be excused from examination on this subject, and yet are bound to submit, as it appears, to examination in all other matters that pertain to the school instruction. It would be an inconsistency to teach the Christian religion and not to examine all the boys as to their proficiency therein, and yet to examine all of them in all other subjects that are taught in the school. But it is not difficult to conjecture how this article got admission into the Scheme.

There is another difference between Tunbridge School and Birmingham School, as at present constituted, which makes the inconsistencies in the remodelling of Birmingham School the more striking. In Tunbridge School the statute has been retained which allows the master to use his discretion as to taking priesthood; and in this the founder's wishes have been respected. It cannot be said that the Letters Patent of Edward VI. required the pedagogue and subpedagogue of Birmingham School to be in holy orders; and even if they did, one would have supposed that in remodelling the school this rule might have been dispensed with. But the Act has required that the Master and Usher of Birmingham School shall be in holy orders, though this is not required in the case of the two assistants. The proper construction of the clause as to the qualification of the master and usher is that none but persons in holy orders are eligible; it is not sufficient if the master and usher take holy orders after being elected. Now, if there is any reason at all for requiring the master and usher to be in holy orders, it must be either in respect of the religious offices that they may be required to perform as masters (as in the case of the master of Highgate School) or in respect of the religious instruction that they are required to give. But it does not appear that they have any religious offices to perform which may not be performed by a layman; and the religious instruction which they may give, of which nothing is said further than is implied by its being a subject of examination by the examiners, might be given by a layman just as well. The pious founder of Tunbridge School thought that his masters, even if laymen, could discharge all the duties that he imposed on them. If the master and usher of a grammar-school must be in holy orders, it is a fair consequence that the school shall be considered strictly a school in which not only the fundamental principles and doctrines of the Christian religion shall be taught, but shall be taught according to the constitution and discipline of the Established Church of England; and yet, whatever the instruction in religion may be, one cannot admit that this instruction is fully carried out in a school where any boy, and consequently all the boys, may be excused from being examined even "in the fundamental principles and doctrines of the Christian religion."

At present there are very few masters of grammar-schools who are not in holy orders, and occasionally advertisements appear as to vacancies of masterships of grammar-schools, in which it is stated that the candidates must be members of the Church of England and in holy orders; and this last condition is mentioned in the case of schools where the rules do not require the master to be in holy orders. Owing to the rules of some schools being altered, as in the case of Birmingham School, and owing to the practice that is established in other schools, it is now the case that laymen are, in fact, eligible to the masterships of very few grammar-schools. The number of persons out of whom a proper choice can be made is thus diminished, which is no advantage to grammar-schools. It is true that at present men who are looking after such valuable appointments as many of our grammar-schools are, take care to have the necessary qualifications; but it does not appear that any good for the grammar-schools is effected in this way; and those at least who will not qualify themselves by taking holy orders are not eligible to these places. It seems probable that it has been an object with the trustees of many grammar-schools to secure at all events a master belonging to the Established Church, which it is admitted that they ought to do; but, in attempting to secure this object by making only clergymen eligible, they have often departed from the intention of the founder and from the usage observed for many years now past, and they have done a serious injury to learned laymen by excluding them from places for which such persons seem peculiarly fitted. A clergyman cannot be considered as more fit for the office of a teacher of grammar because the qualification of holy orders is superadded to the qualification of a degree at Oxford or Cambridge; and a clergyman may at any time be called away from his place of master by Church preferment; and many masters of grammar-schools do look forward to such preferment, and often obtain it. Such preferment, when given after many years of service in a grammar-school, may be viewed as a kind of reward, or as in the place of a retiring pension or allowance. This is a great advantage which an ecclesiastic has over a layman as master of a grammar-school: but a layman is willing to take such an appointment without the hope of being ultimately provided for, like the ecclesiastic, and, as he knows that he can have no other promotion, he is more certain to devote all his services to the school for the best part of his life. If the school can allow him a retiring pension, so much the better both for him and the school; if it cannot, he must give up the school when he is no longer able to conduct it properly, and live as well as he can on his savings. The master who is an ecclesiastic must often do the same; for, though he may be called away from his school by Church preferment after a very few years of service, he may never receive so agreeable an invitation—a case which not unfrequently happens. It may be hoped that the trustees of schools, where the rules do not require the master to be a clergyman, will some time see the impolicy of excluding qualified laymen from the office of master; particularly when they consider that there is hardly a place of honour and emolument in this country which is open to an unprofessional layman, except the masterships of our grammar-schools; and that it would be a great encouragement to that kind of learning which is required of masters of grammar-schools, if such places were freely open to all those whom the founders did not intend to exclude. It is here admitted that in a great many grammar-schools, perhaps universally, the founder intended that none but members of the Established Church should be eligible to the office of master; but this is accomplished by the rule which requires a master to be a graduate of Oxford or Cambridge; and when that rule does not exist, there are means of securing a master who shall be a member of the Established Church, without requiring him to be in holy orders.

The condition of the endowments for education in England may now be collected from the Reports of the Commissioners for Inquiry into Charities, who were appointed (August 28, 1818) under the Great Seal, pursuant to an Act passed in the 58th year of the reign of George III., c. 91, entitled "An Act for appointing Commissioners to inquire concerning Charities in England for the Education of the Poor."

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* The facts as to Tunbridge School are derived from a pamphlet entitled 'A concise Account of Tunbridge School,' &c.: London, Mawman, 1827.

The first Inquiry that we are acquainted with into the condition of grammar and other charity schools was that of the Select Committee of the House of Commons, appointed to inquire into the education of the lower orders. Mr. (now Lord) Brougham was the chairman of this Committee. The Committee made five Reports in the Session of 1818, which contain a great deal of valuable information, and led to the appointment of the Commission already mentioned. The Bill was brought in on the recommendation of the Committee, though not according to their plan. The Commissioners were to examine into the amount, nature, and application of all estates and funds in England and Wales given for the purpose of educating the poor; to examine into all breaches of trust and abuses in the management of such estates and funds; to report proceedings, and to suggest means for preventing any further misapplication of such charity funds. The following places were excepted from the operation of this Act:—The Universities of Oxford and Cambridge, and all Colleges and Halls within the same; all schools and other endowments, of which Universities, Colleges, or Halls are trustees; the Colleges of Eton, Westminster, and Winchester; the Charter House in London; the schools of Harrow and Rugby; all cathedral and collegiate churches; all colleges, free schools, and other charitable institutions for the purposes of education, which had special visitors, governors, or overseers, appointed by their founders; and all funds applicable to the purposes of education for the benefit of Jews or Quakers.

The Commission was continued and renewed under various Acts of Parliament. The 59 Geo. III. c. 81, extended the powers of the former Act to "other charities and trusts created for charitable uses and purposes in England and Wales." This Act was continued until the 1st of July, 1830, by 10 Geo. IV. c. 57. After an interval of fifteen months, from the 1st of July, 1830, to the 15th of October, 1831, the inquiry was revived by 1 and 2 Will. IV. c. 34; in which Act the provisions of the former Acts, which restricted the power of the Commissioners to charities not having special visitors, governors, or overseers, appointed by the founders, were omitted; but the Royal Hospitals of Christ, Bridewell, Saint Thomas the Apostle, Saint Bartholomew, and Bethlem, were for the first time added to the list of excepted endowments.[*] Under the 1 and 2 Will. IV. c. 34, the inquiry was continued to the 15th of August, 1834. The last of these Acts was the 5 and 6 Will. IV. c. 71, which was entitled "An Act for appointing Commissioners to continue the Inquiries concerning Charities in England and Wales until the 1st day of August, 1837." This Act excepted the following places from inquiry:—"The Universities of Oxford and Cambridge, and the colleges and halls within the same; all schools and endowments of which such universities, colleges, or halls are trustees; the colleges of Westminster, Eton, and Winchester; the Charter House; the schools of Harrow and Rugby; the Corporation of the Trinity House of Deptford Strond; cathedral and collegiate churches within England and Wales; funds applicable to the benefit of the Jews, Quakers, or Roman Catholics, and which are under the superintendence and control of persons of such persuasions respectively." Under the last act the commissioners completed their inquiries into endowments for education, as well as other charities, with the exceptions above specified. The reports of the commissioners contain an account of the origin and endowment of each school which was open to their inquiry, and also an account of its condition at the time of the inquiry. The reports are very bulky and voluminous, and consequently cannot be used by any person for the purpose of obtaining a general view of the state of these endowments; but for any particular endowment they may be consulted as being the best, and, in many cases, the only accessible sources of information.

The number of grammar-schools reported on by the Commissioners is about 440. What is the number of those exempted from the inquiry, we cannot state, but it must be considerable. The total income of these 440 schools is about 88,000*l.* In this estimate the gross income of the school estates is generally that which has been taken, except when the charity is applicable to other purposes besides education, in which cases the income of the school is estimated at that sum which is actually paid in salaries and for other school purposes. Of these schools, 65 had an income not exceeding 20*l.* per annum; 15 had an income above 1000*l.* per annum; and 38 (including the 15) had an income above 500*l.* per annum.[*] This total income of grammar-schools would be greatly increased if the income of the excepted schools were added.

As to the total income of the schools not grammar-schools we are not able to state anything with precision; but from an estimate formed upon the commissioners' reports, before they were completed under the last act for continuing the inquiry, it seems to be a safe conclusion that the gross income of endowed schools, not grammar-schools, is at least double that of the grammar-schools actually examined.

The previous remarks on grammar-schools must be taken subject to the provisions contained in a recent act of parliament, which is the only attempt that has been made by the legislature, so far as the writer knows, to regulate schools of this class.[†] This act (3 and 4 Vic., c. 77) is entitled 'An Act for improving the Condition and extending the Benefits of Grammar-Schools.' The act (§ 1) recites, among other things, that the "patrons, visitors, and governors of grammar-schools are generally unable of their own authority to establish any other system of education than is expressly provided for by the foundation, and her Majesty's courts of law and equity are frequently unable to give adequate relief, and in no case but at considerable expense." The act then declares that the courts of equity shall have power, as in the act provided, "to make such decrees or orders as to the said courts shall seem expedient, as well for extending the system of education to other useful branches of literature and science, in addition to or (subject to the provisions thereinafter contained) in lieu of the Greek and Latin languages, or such other instruction as may be required by the terms of the foundation or the then existing statutes, as also for extending or restricting the freedom or the right of admission to such school, by determining the number or the qualifications of boys who may thereafter be admissible thereto as free scholars or otherwise, and for settling the terms of admission to and continuance in the same, and to establish such schemes for the application of the revenues of any such schools as may in the opinion of the court be conducive to the rendering or maintaining such schools in the greatest degree efficient and useful, with due regard to the intentions of the respective founders and benefactors, and to declare at what period, and upon what event, such decrees or orders, or any directions contained therein, shall be brought into operation; and that such decrees and orders shall have force and effect, notwithstanding any provisions contained in the instruments of foundation, endowment, or benefaction, or in the then existing statutes;" but it is provided, that if there shall be any special visitor appointed by the founder or other competent authority, he shall be heard on the matters in question, before the court makes any orders or decrees.

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[*] See Report from Select Committee on Public Charities, 25th August, 1835.

[*] These facts are stated in a pamphlet, already referred to, entitled 'Observations on Grammar-Schools, &c., by the Hon. Daniel Finch,' one of the Charity Commissioners.

[†] Among the titles of the works of Vicesimus Knox, D.D., once master of Tunbridge School, is the following:—"Remarks on the Tendency of certain Clauses in a Bill now pending in Parliament to degrade Grammar Schools, &c." The writer is not further acquainted with the matter. Bills have been brought into Parliament for promoting education and regulating charities. Two bills, one a Parish School Bill, the other a Charity Regulation Bill, were brought in by Lord Brougham in 1820; but dropped, owing chiefly to the opposition of the Dissenters. They were again brought in by him in 1830, after the repeal of the Test and Corporation Acts. In 1837 and 1839 they were brought in with great alterations, and so framed as to give the Church no control; and the opposition of the Church was found so powerful that they were dropped both those years. These bills proposed to establish a system of national education for all branches of knowledge and all ages, which should not interfere with the voluntary exertions already made, and the efforts likely to be made, by individuals, or with the endowments or unendowed institutions already existing, unless by enabling their funds to be more beneficially applied. They also provided a cheap and speedy jurisdiction in charity cases.

The act further provides (§ 2) that, in making any such decree or order, as is mentioned in the first section, the court shall consider and have regard to the intentions of the founders and benefactors of every such grammar-school, the nature and extent of the foundation and endowment, the rights of parties interested therein, the statutes by which the same has hitherto been governed, the character of the instruction theretofore provided therein, and the existing state and condition of the school, and also the condition, rank, and number of the children entitled to and capable of enjoying the privileges of the said school, and of those who may become so capable if any extended or different system of education, or any extension of the right of admission to the said school, or any new statutes, shall be established.

This enactment extends the power of the court over grammar-schools very considerably, as will appear from what has been said, not so much, however, if we view what the court has done, as if we take the declarations of the most eminent equity judges as to what the court can do. The power, however, of changing a grammar-school into one not a grammar-school—that is, the power of dispensing with the teaching of Latin and Greek, or either of such languages—which is given by this act, is a considerable extension of authority; but the power is limited to cases (§ 3) where the necessity of such a change arises from insufficiency of the revenues of a grammar-school for the purpose of such school. But this provision, as it has properly been remarked, will be of very difficult application; for in many successful grammar-schools the revenue is small, and in some which are not successful it is large. Smallness of revenue therefore will not of itself prove "insufficiency of revenues" in the sense intended by the act. The same section contains also a provision, that except in this case of insufficient revenues, the court shall not by this act be authorised to dispense with any statute or provision now existing, so far as relates to the qualification of any schoolmaster or under-master. The dispensing power then which the court has assumed, as shown in some instances above mentioned, remains as it was; that is, it does not exist at all.

It is provided (§ 5), that whenever, on account of the insufficiency of the revenues of any grammar-school, the court shall think fit to dispense with the teaching of Greek or Latin, the court shall prescribe such a course of instruction, and shall require such qualifications in the children at the period of their admission, as will tend to maintain the character of the school as nearly as, with reference to the amount of the revenues, it may be analogous to that which was contemplated by the founder; and that whenever, on the like account, the court shall think fit to dispense with any statute or provision as far as relates to the qualification of any schoolmaster or under-master, the court shall substitute such qualification as will provide for every object implied in the original qualification which may be capable of being retained, notwithstanding such insufficiency of the revenues.

This clause seems to contain many useless words. If the school shall cease to be a grammar-school, owing to the insufficiency of the revenue, it must become another kind of school, and there is no other kind of school, as opposed to a grammar-school, than one which is not a grammar-school; and of all the schools not grammar-schools, the best kind may be presumed to come nearest to what the founder would wish. One object of all this section is, however, probably to retain the school as a Church of England school, a conjecture which seems to be confirmed by section 7.

When a grammar-school shall have been made into another kind of school under the provisions of this Act, it is still to be considered a grammar-school, and the master as a grammar-schoolmaster, and subject to the jurisdiction of the ordinary as heretofore (§ 7); and no person shall be authorised to exercise the office of schoolmaster or under-master therein without having such licence, or without having made such oath, declaration, or subscription as may be required by law of the schoolmasters or under-masters respectively of other grammar-schools.

This clause leaves the jurisdiction of the ordinary where it was; but it assumes that his jurisdiction is limited to grammar-schools, which seems to be the opinion of those who assert the ordinary's jurisdiction over schools. If he has jurisdiction, it does not anywhere clearly appear how it is limited to grammar-schools.

In case there shall be in any city, town, or place, any grammar-school or grammar-schools with insufficient revenues, they may be united, with the consent of the visitor, patron, and governor of every school to be affected thereby (§ 9). The legal meaning of city and town (township) is sufficiently precise, but "place" has no legal meaning, and the framers of the act have forgotten to give it one in their 25th section, which treats of the construction of terms in that act.

The court is also empowered (§ 14) to enlarge the powers of those who have "authority by way of visitation or otherwise in respect of the discipline of any grammar-school;" and (§ 15) where no authority by way of visitation is vested in any known person, the bishop of the diocese may apply to the Court of Chancery, stating the facts, and the court may, if it so think fit, give the bishop liberty to visit and regulate the said school in respect of the discipline, but not otherwise. This provision, for various reasons, will probably prove inoperative.

In the event (§ 16) of the person or persons by whom powers of visitations in respect of the discipline of any grammar-school ought to be exercised refusing or neglecting so to do within a reasonable time after the same ought to be exercised, or in the event of its being uncertain in whom the right to exercise such powers is vested, such powers shall be exercised, *pro hâc vice*, by some person specially appointed by the authority of the Court of Chancery, on application made by any person or persons interested in such grammar-school; provided that nothing herein contained shall exempt any visitor from being compelled by any process to which he is now amenable to perform any act which he is now compellable to perform.

It is doubtful if this section will do much towards securing visitation of grammar-schools. The provision as to visitors is perfectly useless, since there is no legal process by which a visitor can be compelled to perform any act. A visitor may be compelled to visit, but he may make his visit as short and as useless as he pleases.

The 17th section may be useful. It is thereby declared to be lawful for the Court of Chancery to empower the person or persons having powers of visitation in respect of the discipline of any grammar-school, or who shall be specially appointed to exercise the same under this Act, and the governors or either of them, after such inquiries and by such mode of proceeding as the court shall direct, to remove any master of any grammar-school who has been negligent in the discharge of his duties, or who is unfit or incompetent to discharge them properly and efficiently, either from immoral conduct, incapacity, age, or from any other infirmity or cause whatsoever.

The 18th section provides that if the master be removed for incompetency or other infirmity, it shall be lawful for the governors, with the approbation of the visitor, to give a certain allowance or pension to such master, as more particularly provided in this section. The terms of the act only permit an allowance or pension in case of removal, though the act would probably be understood to apply to cases of resignation from age or infirmity. The words "with the approbation of the Visitor" will also cause a difficulty, for there will often be no Visitor who can be found, as the Act supposes (§ 16), and the person who shall be appointed by the Court of Chancery to exercise the powers of Visitor cannot be considered the Visitor mentioned in this section.

The Act gives (§ 19) a summary remedy against masters who hold the premises of any grammar-school after dismissal, or after ceasing to be masters. Such masters are to be turned out in like manner as is provided in the case of other persons holding over, by the Act of the 1st and 2nd of Victoria, intituled "An Act to facilitate the Recovery of Possession of Tenements after due Determination of the Tenancy."

All applications to the court under this act may be (not *must*) made by petition only, and such petitions are to be presented, heard, and determined according to the provisions of the 52 Geo. III. c. 101.

The Act saves the rights of the ordinary. It is also declared not to extend "to the Universities of Oxford or Cambridge, or to any college or hall within the same, or to the University of London, or any colleges connected therewith, or to the university of Durham, or to the Colleges of St. David's or St. Bees, or the Grammar-Schools of Westminster, Eton, Winchester, Harrow, Charter-House, Rugby, Merchant Tailors', St. Paul's, Christ's Hospital, Birmingham, Manchester, or Macclesfield, or Lowth, or such schools as form part of any cathedral or collegiate church." But the exemption does not extend to the grammar-schools of which the Universities of Oxford or Cambridge, or the colleges and halls within the same, are trustees, though these schools were excepted from the commissioners' inquiry by the 5 and 6 Wm. IV., c. 71.

It is not necessary to make any comment on an Act the general purport of which is intelligible enough; its defects (if it has any) will be discovered as the Act comes to be applied. In the present state of this country, it is perhaps a wise measure to give those enlarged powers to the Court of Chancery, the officers and judges of which are better acquainted with the subject of grammar-schools than any other existing authorities.

The Act will probably do some good in checking many absurd attempts to change grammar-schools into something else, or to add to the grammar instruction a number of things which the trustees or governors suppose to be proper to be taught. However inefficient grammar-schools may sometimes have become, in consequence of the instruction being limited to Latin and Greek, it will hardly be contended that they would be improved by such attempts at alteration as one that is quoted in Mr. Finch's pamphlet. There are estates now producing above 1400*l.* a-year, the trusts of which were, in 1597, declared to be, amongst other purposes, for the maintenance of a Free-School at Loughborough. The funds also support a school for reading, writing, and arithmetic; a boys' school on the Lancasterian plan, and a girls' school on the same plan. The grammar-schoolmaster receives 100*l.* per annum, and 31*l.* 10*s.* in lieu of a house. "In consequence of the difficulty experienced in removing his predecessor, the present master was required, on his appointment, to enter into a bond to resign when called upon to do so by a majority of the trustees. The number of scholars was found (by the Charity Commissioners) to vary from five to fourteen, and, on an average, not to exceed eight or nine, in consequence of the instruction being confined to Greek and Latin. For the purpose of extending the usefulness of the charity, the trustees, in 1828, came to a resolution that the master should teach at the free school, in addition to the Greek and Latin languages, arithmetic, English composition, geography, history, natural philosophy, political economy, and the lower branches of mathematics; and the better to enable him to comply, that the number of scholars should be limited to twenty-one. A copy of these resolutions was sent to the master, but he refused to comply with them: he was then called on by the majority of the trustees to resign; this, however, he also declined doing, and no further steps were taken in the matter. The principal inhabitants of the town, the report states, were extremely anxious that this improved course of instruction should have been adopted. They contend that, with such ample funds as are possessed by this charity, efficient schools should be provided for the children of all the inhabitants, and that, as the other schools are adapted for the poorer orders, the means of obtaining a sufficient education for the children of the higher classes should be afforded at this school."

And this "improved course of instruction" was to be furnished by one master for the sum of 131*l.* 10*s.* per annum, who had only undertaken the office of being a grammar-schoolmaster. One hardly knows which most to admire—the liberal purposes of the principal inhabitants of Loughborough, as to a master's salary, or their enlarged views of an "improved course of instruction." It is not from grammar-schools which taught or professed to teach, among other things, "political economy" to boys, that the great ornaments of this country have come. An instance like this—and many more instances might be added of similar attempts to change the objects of grammar-schools—shows that this Act has wisely given no powers to trustees or governors for making any changes in the constitution of Grammar-Schools. So far as any changes will be made in such schools, they will be made on a general principle, and on the whole this Act, with all its imperfections, will probably do no harm, and may do some good. Such a change as the principal inhabitants of Loughborough contemplated could not indeed have been made before the Act, and one may venture to think that it will not be made under it. But the unfortunate thing is, that an application to the Court of Chancery might have been made for such purpose, and may still be made; and the expenses of the application may be ordered to be paid out of the school funds, unless the court should, in its justice, order the principal inhabitants to pay them, which would be a proper reward for their pains in the matter. Cases have occurred where the governors of schools have made similar unsuccessful applications, the costs of which have been defrayed out of the charity funds, and in the mean time the master has gone without his salary.

No legislative measure has yet been enacted, except the act already referred to, which has for its object the general superintendence and control of charity property and charitable foundations. Such a measure would be premature until the vast mass of matter contained in the Charity Commissioners' Reports is properly digested. There are also many charitable foundations for education, as already observed, which were excepted from the Commissioners' powers of inquiry; and as to many of them it is exceedingly doubtful if any direct legislative interference, at least in present circumstances, would be advisable. The consequence of the Commissioners' inquiries has however been to make the general condition of endowed schools, among other charities, better known, and it has led to the correction of many abuses. The abuses and defects in the administration of charities have been of very various kinds. But many cases of abuse consist merely in a misapplication of funds arising from ignorance of the founder's intention; and the Commissioners state that they have in many instances corrected what was amiss simply by representing to trustees and managers of charities what their duties were, and their recommendations have been attended to. There are, however, cases of gross mismanagement and of fraud in the management of charity property, and of that belonging to schools among the rest; though such instances seem to be rarer when the trustees of the school are a corporate body. Whenever in fact the property has been valuable, and intrusted to respectable keeping, which is the case in many instances, whatever errors there may have been owing to inattention to the founder's directions or other causes, there has been little designed misapplication of the funds. There are, however, cases where improper leases have been made of charity property, and under circumstances which have called for the interference of a court of equity. It is also probable that many sums of money, which have been charged on land or otherwise given for exhibitions or scholarships to boys going from certain grammar-schools to the colleges in the Universities of Cambridge or

Oxford, have been lost for want of claimants. The colleges have often been made trustees for such exhibitions; and when the grammar-school has fallen into decay, or when for any cause the exhibitions have not been claimed for a long time, it is probable that the annual sums given or allowed by the donor have sunk into the general income of the college. Such an appropriation may either be consistent with the founder's intention or against it, which will depend on circumstances, and it may sometimes be a nice point of law to determine what the college should do with unclaimed exhibitions or scholarships, and with the improved value of lands given for such purposes. As an instance of the mode in which exhibitions have been given to colleges in trust for boys from grammar-schools, the case of Mr. Worral's exhibitions from Tunbridge School may be taken. These two exhibitions are for students at St. John's College, Cambridge. Mr. Worral, by his will, 1669, gave an annuity of 16*l*. per annum, settled upon the college on condition that the college shall pay to two poor scholars 6*l*. each yearly. The scholars to be such as have been educated at Tunbridge School, the best and most hopeful of them which are in the upper form, and have learned in the upper form two full years at least: unless there be any in the said form who shall be judged better scholars and more hopeful than those who have been there the time above mentioned. Of such so qualified to be preferred—1st, Those born in Kent, and in the parishes of Great Peckham or Wateringbury, or whose parents dwell there, though their children be born elsewhere; 2nd, After them, those that are born, or their parents dwell, in the parishes next adjacent to Great Peckham or Wateringbury; 3rd, After them, any born within any county whatsoever of England and Wales. Mr. Worral's kindred, notwithstanding, to have the exhibitions, though not educated in the school, before any other, if admitted in the college: and if but one of his kindred, he to have the whole 12*l*.: if two, then the whole 12*l*. to be divided between them. They are to make out their being of his kindred to the master and seniors by sufficient testimony. Next to his kindred, those of his name to be preferred. He then provides for the mode of electing his exhibitioners. An estate belonging to St. John's College is charged with this annuity, the college having accepted 310*l*. in full payment and satisfaction of the legacy bequeathed by Mr. Worral, which sum was paid by his executor. This, which is one of numerous instances of property given to a college in trust for scholars from grammar-schools, will serve as an example of the kind of donation. The form of these gifts, and the terms on which the exhibitioners or scholars are to enjoy them, are very various. Many of these annual payments are charged upon lands, but in some cases land has been given to colleges for the purpose of supporting the exhibitions. The whole amount of such annual payments must be very considerable. They must be distinguished from exhibitions payable out of the school funds, such as those of Tunbridge School, which are administered by the same body that administers the general estates of the school; whereas this class of exhibitions is given to colleges and other corporate bodies in trust for boys from particular schools. Most of the grammar-schools had originally only a small endowment, barely sufficient for the purposes of the school; and it was apparently with the view of helping poor and hopeful scholars to get through their residence at college that so many small exhibitions have been established by liberal individuals. Such donations as these may be considered as a part of grammar-school endowments, inasmuch as they are held by other bodies in trust for them; and it is the business of all governors and trustees of grammar-schools to look well after such endowments, and to ascertain whether, in the case of property having improved, the trustees of these exhibitions or the grammar-schools are entitled to the benefit thereof, in whole or in part; and also what is to be done as to the accumulations of exhibitions that have not been claimed for a long time.

The voluminous Reports of the Commissioners appointed to inquire into Charities contain, as already observed, the most complete accessible information on the several schools which were visited by the Commissioners. But this vast mass of materials is only useful for those who wish to inquire into some particular endowment, or for the few who have leisure to study the Reports, and the knowledge necessary to enable them to make a right use of them. The number of these Reports is 32 folio volumes. The last Report is divided into six parts, each consisting of a separate volume, and making the whole number of folio volumes 37. Some of these volumes contain between 800 and 900 pages, and there are few which contain a smaller number than 500 pages. There have been two Digests of these Reports published, one in 1832 and the other in 1835, which comprised the charities in the counties inquired into up to those periods. These Digests contain, in a tabular form, a statement of the property of each charity and the amount of income. The latter of the Digests also gives the object of the charities and other particulars in a column of observations, and a general summary at the end. An Index has been published to the first 14 Reports. Another Index was published in 1840, which is a general Index to all the volumes: it gives the names of the parishes or places reported on, and of the donors, with a reference to the Reports and pages.

Another work of a very voluminous nature is now in progress, in pursuance of an order of the House of Commons made in the session of last year. The order itself will show what this work is to be:—

"I. An Analytical Digest of the whole body of Reports made by the Commissioners for inquiring into Charities, upon the plan adopted in a Digest relating to certain counties, in pursuance of an order of this House made on 27th March, 1835."

"II. A more particular Digest of all schools and charities for education reported on by the said Commissioners, setting forth as far as appears from the said Reports—1. The date and mode of foundation; 2. To what persons the government is intrusted; 3. To whom the patronage belongs; 4. Whether there is any special visitor; 5. The qualifications required in the masters; 6. The instruction prescribed; 7. Who are entitled to the freedom of the school; 8. Whether any exhibitions are attached to it, and whether they are made available; 9. The amount of the income, distinguishing whether it is improvable or not; 10. The state of the school at the time of the inquiry, with the date thereof, as regards the instruction afforded therein, and the number of free and other scholars, with a note of such observations as the Commissioners may have made on the case, and that such Digest may distinguish and classify such schools and charities in the following manner:—first, all schools in which Greek or Latin is required to be or is in fact taught; secondly, all other schools; thirdly, all charities for the purposes of education not limited to any particular local establishment."

"III. Return of all charities for the poor of any parish or district, the income whereof is or may be distributed in money, fuel, or other articles, with a note of such observations as the Commissioners may have made on the case, distinguishing and classifying such charities as follows:—First, those given for the poor, or the use or benefit of the poor, without any directions or reputed directions by the donor as to the description of poor persons or the mode of distribution. Secondly, those as to which the donor has or is reputed to have limited the application, only by describing the objects as 'poor not receiving parish relief.' Thirdly, those in which the donor has or is reputed to have given some other directions as to the selection of the objects of the charity, or as to the mode of distribution."

This work will consist of five parts:—

1. The Analytical Digest, which will probably extend to two or three folio volumes.
2. The Return of Charities for distribution to the poor.
3. The particulars required relative to grammar-schools.
4. The particulars required as to endowed schools not grammar-schools.
5. Charities for education not attached to endowed schools.

A good deal has been written on the subject of endowments for education from time to time. There are several articles on endowed schools in the 'Journal of Education,' and an article on endowments in England for the purposes of Education, in the second volume of the publications of the Central Society of Education, by George Long. The evidence before the Select Committee of the House of Commons in 1835 contains much valuable information. In 1840 a sensible pamphlet on grammar-schools appeared in the form of a letter to Sir R. H. Inglis, by the Hon. Daniel Finch, for twenty years a charity commissioner.

Endowments for Education are probably nearly as old as endowments for the support of the church. Before the Reformation there were schools connected with many religious foundations, and there were also many private endowments for education. Perhaps one of the oldest schools of which anything is known is the school of Canterbury. Theodore, who was consecrated Archbishop of Canterbury in 668 (according to some authorities), founded a school or college by licence from the pope. This school certainly existed for a long time; and there is a record of a suit before the Archbishop of Canterbury in 1321, between the rector of the grammar-schools of the city (supposed to be Theodore's school or its representative) and the rector of St. Martin's, who kept a school in right of the church. The object of the suit was to limit the rector of St. Martin's in the number of his scholars. This school probably existed till the Reformation, at least this is the time when the present King's School of Canterbury was established by Henry VIII., and probably on the ruins of the old school. Many of our most noble foundations, such as Winchester College and Eton College, are of a date long prior to the Reformation. Before the Reformation schools were also connected with chantries, and it was the duty of the priest to teach the children grammar and singing. There are still various indications of this connection between schools and religious foundations, in the fact that some schools are still or were till lately kept in the church, or in a building which was part of it. There are many schools still in existence which were founded before the Reformation, but a very great number was founded immediately after that event, and one object of King Edward VI. in dissolving the chantries and other religious foundations then existing was for the purpose of establishing grammar-schools, as appears from the recital of the Act for that purpose (1 Ed. VI. c. 14). But as Strype observes, in his 'Ecclesiastical Memorials,' "this Act was grossly abused, as the Act in the former king's reign for dissolving religious houses was. For though the public good was pretended thereby (and intended too, I hope), yet private men in truth had most of the benefit, and the king and commonwealth, the state of learning and the condition of the poor, left as they were before, or worse." It appears also that, in the confusion consequent on these violent changes, and the eagerness of all persons to get something of the spoil, schools were even suppressed which did not come within the terms of the Act. It is also certain that new schools were not always established in those places where a school had previously been connected with a religious foundation. There was a chantry at Sandwich in Kent, in the school belonging to which Roger Manwood received the rudiments of his education. The chantry was suppressed under the Act of Edward VI., and no school was established in its place. The want of a school there subsequently led to the foundation of the present grammar-school, for which the said Roger Manwood obtained a licence in the usual form from Queen Elizabeth. This school was in fact commenced in 1563 by a subscription by the mayor, jurats, and principal inhabitants of Sandwich. Manwood endowed it with land; and the dean and chapter of Canterbury, through Archbishop Parker's application, granted a piece of land belonging to their church at Sandwich for the site of the school. This appears very much like an attempt to repair part of the mischief that had followed on the suppression of the chantries and other similar establishments.

The king however did found a considerable number of schools, now commonly called King Edward's Schools, out of tithes that formerly belonged to religious houses or chantry lands; and many of these schools, owing to the improved value of their property, are now among the richest foundations of the kind in England. In these, as in many other grammar-schools, a certain number of persons were incorporated as trustees and governors, and provision was made for a master and usher. At that time the endowments varied in value from twenty to thirty and forty pounds per annum. Birmingham School is an example of one of these royal foundations.

A large proportion of the grammar-schools were founded in the reigns of Edward VI. and Elizabeth, and there is no doubt that the desire to give complete ascendancy to the tenets of the Reformed Church was a motive which weighed strongly with many of the founders. Since the reign of Elizabeth we find grammar-schools occasionally established, but less frequently, while endowments for schools not grammar-schools have gradually increased so as to be much more numerous than the old schools. Foundations of the latter kind are still made by the bounty of individuals from time to time; and a recent act of parliament (2 and 3 Will. IV. c. 115) has made it lawful to give money by will for the establishing of Roman Catholic Schools. The statute of the 9 Geo. II. c. 36, commonly called the Mortmain Act, has placed certain restrictions on gifts by will for *charitable* purposes, which restrictions consequently extend to donations by will for the establishment or support of schools.

The History of Grammar Schools before the Reformation would be a large part of the history of education in England, for up to that time there were probably no other schools. From the time of the Reformation, and particularly till within the last half-century, the grammar-schools of England were the chief schools of early instruction for all those who received a liberal training. From these humble and unpretending places has issued a series of names illustrious in the annals of their country—a succession of men, often of obscure parentage and stinted means, who have justified the wisdom of the founders of grammar-schools in providing education for those who would otherwise have been without it, and thus securing to the state the services of the best of her children. Though circumstances are now greatly changed, there is nothing in the present condition of the country which renders it prudent to alter the foundation of these schools to any great extent; and certainly there is every reason for supporting them in all the integrity of their revenues, and for labouring to make them as efficient as their means will allow. In the conflict of parties who are disputing about education, but in fact rather contending for other things, in the competition of private schools, which from their nature must be conducted with a view to a temporary purpose, and in the attempt made to form proprietory establishments which shall combine the advantages of grammar-schools and private schools, and shall not labour under the defects of either—we see no certain elements on which to rest our hopes of a sound education being secured to the youth of the middle and upper classes of this country. The old grammar-schools, on the whole, possess a better organization than anything that has yet been attempted, and though circumstances demand changes in some of them, they require no changes which shall essentially alter their character. In the present state of affairs, these are specially the schools for the middle classes, and it is their interest to cherish and support them.

EUROPE.

Europe is one of the great divisions of the globe, forming the north-western part of the old continent, of which it occupies a little more than two-seventeenths; Asia contains nearly nine-seventeenths, and Africa somewhat more than six. The surface of Europe is calculated to contain about 3,900,000 square miles, if Mount Caucasus and the river Ural are considered as forming the boundary-line between it and Asia.

The name "Europe" first occurs in a poem attributed to Homer. ('Hymn to Apollo,' 251, 291.) Herodotus (iv. 45) says he does not know how the name came to be given to our continent, except it be from Europa, the daughter of the king of Tyre; but he seems hardly satisfied with this explanation, and we have no other to offer. If the history of the discovery of America were lost we should have a similar difficulty in conjecturing how the New World obtained its name.

Europe is separated from America by the wide expanse of the Northern Atlantic, which washes its western and northern shores, and from Africa by the Mediterranean Sea. The boundary-line which divides Europe from Asia is only in part indicated by nature. This line runs through the Archipelago, the straits of the Dardanelles, the sea of Marmara, and the straits of Constantinople, to the Black Sea, which is traversed by it. So far all geographers agree, but they do not agree as to the remaining part of the boundary-line. In the last century this line was drawn through the straits of Yenikale and the sea of Azof, and then along the river Don as far as the point where it approaches nearest to the river Volga, and afterwards along this river to its confluence with the Kama. It then followed the Kama to its sources in the Ural Mountains, and was continued along the crest of this range to the source of the Kara, and thence along that river to the gulf of Kara.

This boundary-line is now abandoned as being too vague, and another is substituted for it. This new line traverses the Black Sea to the western extremity of Mount Caucasus, south of Anapa; it then runs along the watershed of this range east-south-east to its eastern extremity, where it reaches the Caspian Sea at Soomgait, north of the peninsula of Absheran. Thence it runs through the Caspian Sea, which it leaves at the mouth of the river Ural, whose course it follows up to its sources in the Ural Mountains. The Ural Mountains and the river Kara constitute the remainder of this boundary-line.

The most northern point of the European continent is Cape Nord Kyn, in 71° 6′ N. lat.; North Cape, in 71° 10′, is on an island called Mageroe. The most southern points are Punta de Tarifa in Spain (36° N. lat.) and Cape Matapan (36° 17′) in Greece. The most western points are Cape St. Vincent (9° W. long.), Cape Roca (9° 28′), and Cape Finisterre (9° 27′). The most eastern point is in the Ural Mountains, west of Ekatarinburg (60° 20′ E. long.). But some of the islands extend farther south and west than the continent. The most southern point of the island of Candia is in 31° 55′ N. lat. The Blasquet Islands on the west of Ireland lie in 10° 35′ W. long. Cape Fugelberg in Iceland is near 25° W. long., and the most western of the Azores, Corvo and Flores, in 31° W. long. The most northern extremity of Nowaya Saemlia (Nova Zembla) is about 77° N. lat. A straight line drawn from Cape St. Vincent to the mouth of the river Kara, on the Frozen Ocean, the north-eastern extremity of Europe, does not much exceed 3000 miles; and another, drawn from Cape Matapan to Cape Nord Kyn, is 2400 miles long.

I. *Progress of Discovery.*—The earliest notices of the history of Europe are in the writings of the Greeks, who inhabited the south-eastern corner of our continent. From this country the geographical knowledge of Europe extended by degrees to the west and north. Homer, who probably lived about 1000 years before the Christian æra, was acquainted with the countries round the Ægean Sea or Archipelago. He had also a pretty accurate general notion respecting those which lie on the south coast of the Black Sea; but what he says about the countries west of Greece, on the shores of the Mediterranean Sea, is a mixture of fable and truth, in which the fabulous part prevails. It would seem that in his age these seas were not yet visited by his countrymen, and that he obtained his knowledge from the Phœnicians, who had probably for some time sailed to these countries, but who, according to the common policy of trading nations, spread abroad false accounts of these unknown regions, in order to deter other nations from following their track, and participating in the advantages of this distant commerce. It is probable also that the Phœnicians long excluded the Greeks from the navigation of the Mediterranean; for when the Greeks began to form settlements beyond their native country, they first occupied the shores of the Ægean, and afterwards those of the Black Sea. As the European shores of the Black Sea are not well adapted for agriculture, except a comparatively small tract of the peninsula of Crimea, their early settlements were mostly made on the Asiatic shores, and consequently little addition was made by these colonies to the geographical knowledge of Europe. But the navigation of the Phœnicians was checked in the middle of the sixth century before Christ, apparently by their country being subjugated by the Persians. About this time also the Greeks had begun to form settlements in the southern parts of Italy and on the Island of Sicily, and to navigate the Mediterranean Sea in its full extent. Accordingly we find that in the time of Herodotus (450 before Christ), not only the countries on each side of the Mediterranean Sea and the northern shores of the Black Sea were pretty well known to the Greeks, but that, following the track of the Phœnicians, they ventured to pass the Columns of Hercules, and to sail as far as the Cassiterides, or Tin Islands, by which name the south-western part of England must be understood. It is even reported that some of their navigators sailed through the English Channel and entered the North Sea, and perhaps even the Baltic. It must be observed, however, that Herodotus professes himself totally unacquainted with the islands called Cassiterides (iii. 115); and Strabo (101, &c.) expresses a very unfavourable opinion of the alleged northern voyages of Pytheas.

Thus a considerable part of the coasts of Europe was discovered, whilst the interior remained almost unknown. When the Romans began their conquests, this deficiency was partly filled up. The conquest of Italy was followed by that of Spain and the southern parts of France, and not long afterwards Sicily, Greece, and Macedonia were added. Cæsar conquered Gallia and the countries west of the river Rhine, together with the districts lying between the different arms by which that river enters the sea. His two expeditions into Britain made known also in some measure the nature of our island and its inhabitants. Thus, in the course of little more than 200 years, the interior of all those countries was discovered whose shores alone had been previously known. In the mean time nothing was added to the knowledge of the coasts, the Greeks having lost their spirit of discovery by sea with their liberty, and the Romans not being much inclined to naval enterprise.

After the establishment of imperial power at Rome, the conquests of the Romans went on at a much slower rate, and the boundaries of the empire soon became stationary. This circumstance must be chiefly attributed to the nature of the countries which were contiguous to the boundaries. The regions north of the Danube are mostly plains, and at that time were only inhabited by wandering nations, who could not be subjected to a regular government. Such at least are the countries extending between the Carpathian Mountains and the Black Sea; and therefore the conquest of Dacia by Trajan was of short continuance and speedily abandoned. The countries between the Alps and the Danube were soon added to the empire; but, as the nations who inhabited the tracts north of that river had not yet given up a wandering life, they were enabled to elude the Roman yoke. The most important addition to the empire and to geographical knowledge was the conquest of England during the first century after Christ, to which, in the following century, the south of Scotland was added.

Nothing seems to have been added afterwards. The Geography of Ptolemy contains a considerable number of names of nations, places, and rivers in those countries, which were not subjected to the Romans. Probably they were obtained from natives, and from Roman traders who had ventured to penetrate beyond the boundaries of the empire. But these brief notices are very vague, and in many cases it is very difficult to determine what places and positions are indicated.

The overthrow of the Roman empire by the northern barbarians destroyed a large part of the geographical knowledge previously obtained, except perhaps as to that portion of Germany which was subject to the Franks, which by degrees became better known than it was before. But two sets of men soon made their appearance who contributed largely to extend the geographical knowledge of Europe—missionaries and pirates. The Christian religion had been introduced into all the countries subject to the Roman power. The barbarians who subverted the empire soon became converts to the Christian faith, and some of them ventured among other barbarous nations for the purpose of converting them also. They visited the nations that inhabited the eastern parts of Germany, but here their progress was at first slow; they did not cross the river Oder, or at least they did not venture far beyond it, and the geographical knowledge of this part of Europe was consequently not much increased. The progress of those missionaries was more important who penetrated from Constantinople into the interior of Russia, where they succeeded in converting to the Greek church the different tribes into which the Russians were then divided. This was effected in the ninth century. In the tenth the western missionaries got into Poland, and its inhabitants by degrees became converts. In the beginning of the thirteenth century the Prussians and Lithuanians had not been converted to Christianity, and the attempts of the missionaries were for a long time abortive. Christianity was however introduced among the Prussians during the thirteenth century by force of arms, the knights of St. John having conquered the country. The Lithuanians were the last to embrace Christianity, which was effected by a stroke of policy: their sovereign acquired the crown of Poland by embracing the new faith.

To the pirates we are indebted for our acquaintance with the northern parts of Europe, especially the Scandinavian peninsula; but this was not owing to pirates who went to, but to pirates who came from, these countries. The Northmen or Normans, who inhabited Denmark, Norway, and Sweden, first laid waste and then settled in part of France, and afterwards conquered England. In their new settlements they maintained a communication with their native countries, which thus gradually became known wherever the Normans had settled.

It is worthy of remark that no part of Europe has been discovered or explored by travellers who went for that sole purpose. We must however make an honourable exception in favour of Alfred the Great, who sent two noblemen to explore the countries around the Baltic Sea; and in the account of one of them, Other, or Otter, we find the first accurate notions respecting these regions, especially Prussia, more than 300 years before the Prussians were converted to Christianity.

II. *Surveys of Europe.*—In the beginning of the last century trigonometrical surveys were first made with the view of constructing accurate maps. The first of these surveys was made in France under Cassini. Since that time other European governments have caused some parts at least of their respective territories to be surveyed, especially Prussia and Austria. England followed in the same steps towards the beginning of the present century, and to this great national undertaking we owe the publication of the Ordnance Maps. The southern parts of Sweden and Norway have likewise been surveyed. Thus we are now in possession of very exact maps of nearly one-half of Europe. The maps of the other countries of Europe rest on the partial surveys of particular districts, and on a greater or less number of astronomical observations; by means of which those parts which have not been surveyed can still be laid down within certain limits of accuracy. Though maps of this latter kind cannot altogether be relied on, the attention paid by all governments to their gradual improvement has been sufficient to correct very gross errors, and thus these maps have by successive and partial improvements attained a certain degree of correctness.

The great increase in commerce and navigation in modern times has convinced the respective governments of Europe of the necessity of a minute and accurate survey of their coasts. But all the coasts of Europe have not been surveyed, though more than half of them have been accurately laid down. The greatest part of the coast of Iceland has been surveyed by the Danish government, and this survey is still going on. The whole western coast of Norway, and east of Cape Lindesnaes, as far as the harbour of Christiansand, was surveyed by the Danes fifty or sixty years ago, but this survey is not considered accurate. The Baltic, including the Cattegat, has been surveyed by the governments to which the coasts belong, but not minutely, nor is the survey considered accurate. The coast between the mouth of the river Elbe and the Dollart was surveyed by the French, and continued to the Schelde by the Dutch. The coast between the Schelde and Gravelines was surveyed by the French.

Our government has shown great activity in surveying the British coasts. A minute and accurate survey has been made of the whole eastern coast of Great Britain south of the Murray Frith, and of the whole southern coast, except the tract between Sidmouth and Plymouth. The western coast, including the Bristol Channel, has been surveyed as far as Bardsey Island, and again between Holyhead and Liverpool. Farther north only the Solway Frith is partly surveyed. The coast of Ireland has been surveyed between Dublin Bay and Donegal Bay inclusive, along the northern shores of the island. The Orkneys, the Shetland and Scilly Islands, as well as Guernsey, Jersey, and Alderney, have been surveyed completely.

The coast of France has been surveyed by the French government from the Strait of Dover to Bayonne, except a part of the coast of the Bay of Biscay from about Belle Isle to the Isle of Ré. Most of the harbours on the coast of Spain have been minutely surveyed by the Spanish government.

Most of the islands in the Mediterranean have been surveyed; Corsica and Elba by the French, Sicily and Sardinia by the English. The survey of the Adriatic has been completed by the Austrians and English co-operating. From the Adriatic to the Archipelago the coast has been surveyed by the English, and they have also carried on a survey through the islands and coasts of the Archipelago.

III. *Physical Geography.*—Nearly two-thirds of the surface of Europe consist of an immense plain; the remainder is partly mountainous, and partly hilly. The plain occupies the east part of the continent; and the hilly and mountainous countries extend along its western and southern shores. On the eastern boundary the plain extends across the whole continent from south to north, from the mountain-range of the Caucasus and the shores of the Black Sea to those of the Arctic Ocean. In width it extends in this part of the continent from the Ural Mountains to 26° E. long. To the west of this meridian it terminates on the north on the shores of the Baltic, and in the mountain-region of Scandinavia; on the south it continues along the southern shores of the Baltic, and extends even farther west to the shores of Holland opposite the British Islands. If small eminences are not taken into account, it may even be said to continue in a south-west direction through Belgium and the northern parts of France to the banks of the Seine, where it terminates between Paris and the mouth of the river. The portion of the plain, west of the meridian of 26°, is narrowed on the south by the Carpathian Mountains, and other ranges which are connected with them. Towards the eastern part it extends over ten degrees of latitude, but in its progress towards the west it becomes gradually narrower, partly owing to the mountains advancing farther north, and partly also owing to the seas which form its northern border running farther to the south. Here its mean breadth does not exceed three degrees of latitude, except where the peninsula of Jutland joins it. Along the coast of the North Sea it is still narrower.

By this narrow portion of the Great European Plain and the Baltic (which may be considered as its lowest part, being covered with water) the mountain-regions which constitute the western portion of the continent are divided into two separate systems. To the north lies the system of the Scandinavian Mountains, and to the south what we shall here call the South European Mountain System.

The Great Plain occupies about 2,500,000 square miles, the South European Mountain Region 1,100,000, and the Scandinavian Mountain System about 300,000 square miles.

Scandinavian Mountain System.—This comprehends the whole of the Scandinavian peninsula, or Sweden and Norway. A line drawn from the mouth of the River Torneo, at the most northern angle of the Gulf of Bothnia, to the Waranger Fiord, a bay of the Arctic Ocean, would separate it from the north-western part of the Great Plain. A huge mountain-mass occupies the west part of this peninsula. It rises on the very shores of the sea to a height of some hundred feet, and attains, at a short distance from it, an elevation of 3000 or 4000 feet, and frequently more. South of 63° N. lat. it has not the form of a mountain range, but of a mountain-plain, its surface frequently presenting a perfect level, and in some places swelling into hills. This elevated plain is from 100 to 150 miles across, and as it attains in many parts the line of perpetual congelation, which in this latitude is about 1200 feet above the sea, a great portion of it is always covered with snow; while other districts, where the snow melts during several weeks in every year, afford pasture-ground. On the plain there rise a small number of summits, among which the Skagstolstind attains 8400 and the Sneehätten 8200 feet. The western side of this plain is indented by deep inlets of the sea, which penetrate from 30 to 60 miles, and even more, inland; the eastern side is furrowed by deep and narrow valleys, of nearly the same length.

North of 63° N. lat. the masses of rocks take the form of a high ridge, the summits of which however rarely extend more than a few miles, and frequently present a sharp-edged crest. Their ascent on the side towards the Atlantic Ocean is rapid and frequently precipitous, a character which increases as we advance farther north, because the highest part of the range gradually approaches the ocean till it constitutes its very shores. The highest summit is the Sulitelma, which rises to more than 6000 feet; but many other parts exceed the snow-line, which varies between 2000 and 3000 feet, and towards the north sinks much lower.

The country to the east of this range, and at the base of it, is more than 1000 feet above the sea, and descends towards the Gulf of Bothnia in long slopes, interrupted by small level plains, and intersected here and there by ridges of hills, running in the direction of the slopes, and approaching in some parts to the shores of the gulf.

Mount Styltfiellen is on the northernmost extremity of the mountain-plain, where it begins to contract to the dimensions of a range. It stands near 63° N. lat., and attains the height of 6486 feet above the sea. From it, as from a common centre, branch off several ridges to the east, south-east, south, and south-west; and though they soon sink down to hills, they continue through the south-eastern part of the peninsula, the mean elevation of which is from 300 to 400 feet above the sea, and above which the hills rise a few hundred feet. The Scandinavian ridges enclose the great lakes of Mälarn, Wenern, and Wettern. To the south of the last lake these ridges unite, and form the table-land of Småland, whose surface is on an average about 500 feet above the sea, and which constitutes the most southern extremity of the Scandinavian system. It descends with a gentle slope towards the east, but very rapidly to the south and west. The peninsula of Scania, which joins it on the south, is low and flat.

The Färoe Islands, which are between Norway, Cape Wrath in Scotland, and Iceland, and nearly equidistant from these three countries, resemble in their conformation the rocky plain of South Scandinavia, rising abruptly from the sea to more than 1000 feet, and presenting on their summits, at an elevation of more than 3000 feet above the sea, generally a level surface. This seems also to be the case with the south-eastern part of Iceland, which is called the Klofa Yökul, where a surface of more than 8000 square miles has never been explored, probably owing to the thick layer of snow which has accumulated on a mountain-plain which rises above the snow-line (3000 feet). The western and northern districts of Iceland, which in general rise only to a moderate elevation, though some isolated ridges and summits attain the snow-line, seem to be the product of that active volcanic agency which has frequently laid waste this portion of the island.

Though the Scandinavian Mountains are not visibly connected with the South European Mountain system, we may perhaps be excused in considering the island of Great Britain as forming such a link. The most northern part of Scotland lies in the same parallel with the southern part of the Scandinavian mountain-plain, and bears a considerable resemblance to it in configuration, consisting of one enormous mass of high rocks, which rise abruptly from the sea, and exhibit on their surface extensive plains, sometimes flat and sometimes diversified with eminences. These plains however are not covered with snow, as they do not rise above 2000 feet, and sometimes attain only 1000 feet, or a little more, an elevation which falls considerably short of the snow-line. This description is applicable to the whole of Scotland north of the Central Grampians (57° N. lat.), with the exception of the greater part of the counties of Caithness and Aberdeen. Even to the south of 57° N. lat. we meet with an elevated plain, about 1000 feet above the sea, which, under the name of the Moor of Rannoch, extends more than thirty miles in every direction between Ben Cruachan and the southern chain of the Grampians. But farther south the Scandinavian character of the country is lost, and the surface presents the broken character of ridges, valleys, and plains, by which the most northern portion of the South European mountain system is distinguished. This character of the country softens gradually as we proceed farther south. Between 57° and 51° N. lat. the plains are generally of small extent, and a great number of summits rise to 1000, 2000, and sometimes even to 3000 feet and upwards above the sea. South of 51° N. lat. however these lofty elevations, and the comparatively narrow valleys which accompany them, occur only along the western coast of Great Britain, in Wales, and the counties of Devon and Cornwall. East of the Severn the hills do not generally rise so high as 1000 feet, nor are their slopes abrupt; the whole surface consists of gentle swellings and slopes, with wide levels between them. Towards the North Sea it sinks down entirely, and forms (with few interruptions not worth mention in this general survey) a great plain, which occupies the counties of Lincoln, Cambridge, Huntingdon, Norfolk, Suffolk, and Essex. As these flats lie opposite to the western extremity of the Great European Plain, one might imagine that they are a continuation of that plain, and that in the island of Great Britain the three great systems which occupy Europe have their representatives. South of the Thames the country resumes its undulating surface, and approaches in its form to those districts of France which extend along the southern shores of the Channel.

South European Mountain System.—This system, which extends over the whole of South Europe, from Cape La Roca in Portugal to the Straits of Constantinople, presents a surface more diversified in its form than any other portion of the globe of equal extent, China perhaps excepted.

To give greater perspicuity to our description, we shall follow the natural division made by a valley which traverses the whole of this mountain-system from north to south, between 4° and 8° E. long. In the northern part of the valley flows the Rhine from Basel northwards, in the southern the Rhone from Lyon southwards. The middle portion of the valley is occupied by the vale through which the Saone, a tributary of the Rhone, and the Doubs, a branch of the Saone, have their course. The most northern bend of the Doubs lies nearly under the same parallel as Basel, and less than thirty miles from it. In this part there occurs a great depression in the mountains which divide the Rhine from the Doubs, and the French government have taken advantage of it, by carrying through this depression a canal, which is called the Rhone and Rhine canal, and which unites the Doubs to the Ill, a tributary of the Rhine. The highest part of this canal is nearly 1760 feet above the sea.

In the region which lies west of this long transverse valley nature has effected another natural division, by forming across the continent a wide plain, skirting the northern side of the Pyrenees, and extending from the Bay of Biscay to the Mediterranean. The western part of this plain is low and flat, and drained by the river Garonne; the eastern is traversed by low hills, but does not rise much higher than the western part. The canal of Languedoc, which is made through this portion of the plain, and unites the Garonne with the Mediterranean Sea, attains at its highest level an elevation of about 600 feet above the sea.

South of this plain the mountain-chain of the Pyrenees rises with a rapid ascent, and runs across the whole continent from the Bay of Biscay to the Mediterranean. In its central parts it attains a mean elevation of about 6000 or 7000 feet, but a much less height towards its two extremities. The highest summits are upwards of 11,000 feet high, as the Mont Perdu (11,282), the Maladeta (11,500), and there are many more which exceed 10,000 feet. The southern declivity runs out in long mountainous slopes, intersected by deep valleys, and terminates on the banks of the river Ebro. Not far from the western extremity of the Pyrenees another chain branches off, which may be considered as its continuation, since it runs directly to the west. As far as 6° W. long. it is a single chain, with short offsets, but west of that meridian it divides into several ranges, which traverse the north-western part of Spain in different directions, and terminate respectively at the capes of Ortegal, Finisterre, and Silleiro. This chain, which may be called the Cantabrian range, rises in its eastern parts to about 4000 or 5000 feet, but west of 5° W. long. it attains a height of 5000 or 6000 feet.

South of these ranges extends the table-land of Spain, the highest parts of which occur between 1° and 4° W. long., where they are from 2000 to 2500 feet above the level of the sea. The country east of this line descends rapidly, but in high chains of hills, which contain some mountain summits, to the Mediterranean. On the highest part of the table-land also, a few high mountains occur, as the Sierra Urbion, which rises to 7272, and the Sierra Molina, to 4500 feet, but they do not form continuous chains. The country west of them is a plain, which presents a large extent of level ground, in some places a hilly surface, and in others ridges about 1000 feet above their base. Such are the ridges which divide the basin of the river Tajo from that of the Guadiana. But between the Tajo and the Duero the dividing ridge rises to 5000 or 6000 feet, and attains in the Sierra de Gredos even the elevation of 10,548 feet. In its continuation towards the Atlantic is the Serra d'Estrella, 7524 feet high; and even the Serra do Junto, not far from its termination at Cabo da Roca, is 2319 feet above the sea.

The Sierra Morena, which divides the basins of the rivers Guadiana and Guadalquivir, forms the southern boundary of the table-land. It does not however rise much above it, the mean elevation of this range varying between 3000 and 4000 feet. South of the Sierra Morena the country sinks considerably to the valley of the Guadalquivir, which, in its upper part, is only about 1000 feet above the sea, and in its lower course traverses an extensive level plain, which, near the sea, is covered with swamps.

This valley is divided from the Mediterranean by a long chain of mountains running east and west, a considerable part of which is always covered with snow, and has therefore received the appropriate name of Sierra Nevada. The highest summits occur between 3° and 4° W. long., and are the Cerro de Mulhacen (11,660 feet high), Cerro de Machos (11,096), Cerro de Veleta (11,387), Cerro de Caldera (10,793), and Cerro de Fajoz Altos (10,778). Many other summits exceed the snow-line, which, in this latitude, is about 9000 feet above the sea.

The country between the plain of the Garonne and the valleys of the Rhone and Rhine presents a different character. It contains also an elevated region, rising to between 2000 and 3000 feet above the level of the sea. But this region is of comparatively small extent, being included between 44° and 46° N. lat., and between 1° and 4° E. long. On its surface rise three chains of mountains, which enclose the valleys of the Allier and of the Upper Loire. The most western part is called the mountains of Auvergne, the middle the mountains of Forez, and the eastern range the Cevennes. The mountains of Auvergne, which exhibit unequivocal signs of volcanic origin, rise in Mount Cantal to 6090 feet, in Mont d'Or to 6200, and in Puy de Dôme to 4840 feet. The country west of them continues high and hilly, but gradually declines in elevation as far as the source of the Charente, from which point to the sea it extends in a low and level plain. The mountains of Forez rise in the Pierre Haute to 6200, and in the Mount Magdalene to 4800 feet. The two chains terminate about 46½° N. lat., near the town of Moulins, on the Allier: the country extending to the north and north-west of them has an undulating surface, resembling that of the southern counties of England: it varies from 200 to 300 feet above the level of the sea, and does not exhibit ranges of hills, except in the south of Normandie and in Bretagne, where the hills rise from 1000 to 1500 feet above the sea.

The Cevennes, which separate the valley of the Upper Loire from that of the Rhone, rise in Mount Mezin to 5820 feet, in Mount Pilate to 3516 feet, and in Mount Tarare to 4756 feet. South of 47° N. lat. they sink down to the level country, and through the depression thus formed runs the Canal du Centre. North of this canal the chain rises again, but to a less elevation, and is here called the Côte d'Or, which, between 47° and 48° N. lat., terminates in a hilly plain, called the Plateau de Langres. On this plain, which may be about 1000 feet above the sea, several of the rivers of France take their rise, and among others the Seine. From the north-eastern part of this plain issues a chain of low hills, called Monts Faucilles, which, at 48° N. lat., extend eastward till they meet the higher range of the Vosges mountains, which rise in the Ballon de Sulz to 4560 feet. The chain of the Vosges runs parallel to the Rhine, and terminates at a short distance from the town of Mayence, in the Mont Tonnerre, or Donnersberg, 2656 feet high. West of this chain, as far as the Côte d'Argonne (a range of high hills which issues from the western extremity of the Monts Faucilles, and separates the valley of the Maas or Meuse from the sources of the eastern tributaries of the Seine), extends a rugged country, intersected by valleys and chains of hills, running in a northern direction, and terminating in the Ardennes and the Eifel, which are hilly and rugged plains, about 1800 feet above the level of the sea, occupying the space between the Meuse and the Rhine as [illegible] north as 50⅓° N. lat. West of the Côte d'Argonne extend the dry chalk-plains of Champagne, which gradually subside in the level country which occupies the north of France (the departments of Seine and Marne, Aisne, Oise, Seine Inférieure, Somme, Artois, and Nord), and joins that of Belgium. On this plain only a few hills, and those of very moderate elevation, occur at considerable intervals.

We pass now to that portion of the south European mountain system which lies to the east of the valleys of the Rhone and of the Rhine. Here we find the mountain system of the Alps, which extend from the banks of the Rhone as far east as 18° E. long., and cover an immense tract of country. The Alps may be divided into the Higher and Lower Alps. The Higher Alps extend to about 13° E. long., and the Lower between 13° and 18°.

The Higher Alps have the form of a quadrant, beginning on the shores of the Mediterranean, and running first due north, but gradually declining to the east, until they run due east, in which direction about one half of their course continues. Their mean breadth does not exceed 100 miles. Many hundred summits, perhaps not less than a thousand, rise above the snow-line, which here is found at somewhat more than 8000 feet above the sea. The highest summits are Mont Blanc (15,748 feet), Mont Rosa (15,170), and Mont Cervin, 14,778 feet above the sea. The valleys by which these mountains are intersected are narrow, and sink down to 2500 and 2000 feet, and still lower.

The Lower Alps do not rise to so great an elevation, few of the summits attaining the snow-line; the highest summit is Mont Terglou, near the sources of the Save, which is 9380 feet above the sea. But the space occupied by these mountains widens considerably as they proceed eastward; between 15° and 16° E. long. they are upwards of 200 miles across, and fill up the whole country between the Adriatic Sea and the Danube. They form also several chains running east and west, between which there are wide longitudinal valleys. East of 16° E. long., where they approach the mountain system of the Balkan, they narrow to about 80 miles, and continue to run along the Adriatic Sea.

The Alps descend with a rapid slope southward to the plain of Lombardy, which extends from the western part of the Higher Alps to the Adriatic. Its length is about 250 miles, with an average breadth of about 50. Its western and higher districts are about 400 feet above the sea, but it gradually subsides as it advances east, till it terminates in a low sandy shore. It is mostly a dead flat, of great fertility, and very well cultivated.

South of this plain extend the Apennines, a mountain-range which, at its western extremity, joins the most southern part of the Higher Alps, and runs in one chain eastward along the plain of Lombardy, from which it rises with a steep ascent. It afterwards turns south and traverses, in different chains, the peninsula of Italy, terminating at its most southern extremity, the Capo dell'Armi, on the straits of Messina, with the Monte Aspro, 5300 feet. The highest part of this range is between 43° and 42° N. lat., where the Monte Corno or Gran Sasso d'Italia rises to 9510, and the Monte Sibilla to 7200 feet. The valleys which are included between its several ranges are wide and fertile. In some places the mountains do not extend to the shores of the sea, but leave spacious plains, as is the case along the Adriatic, north of 41°, and again between 42° and 43°. The latter plain, called the Tavogliera de la Puglia, is without trees, and of very indifferent fertility. Along the Mediterranean occurs the plain of Terra di Lavoro, in which the town of Naples and Mount Vesuvius are situated, one of the most fertile spots of Europe or the world.

The island of Sicily, which is separated from Italy by the strait of Messina, has a hilly surface. Along the northern coast there runs a chain of low mountains, which, in Mount Madonia, rise to 3788 feet. Unconnected with this chain is the volcano of Mount Ætna, which attains an elevation of 10,800 feet above the sea. Between the hills, with which Sicily is studded, and sometimes on their very tops, there are plains of moderate extent, which are sometimes nearly 1000 feet above the sea.

The island of Sardinia consists of two chains of mountains running north and south, and an elevated valley between them. The eastern chain, which is the higher, rises in Mount Schimschiu to 6000, and in the Lyubarra mountains to 5768 feet. The western chain probably does not exceed 3000 feet in elevation. Along the coast there are some low swampy tracts.

The island of Corsica is still more mountainous. If a few small tracts along the eastern shores are excepted, which are covered with swamps, it is everywhere studded with high hills and ridges of mountains. Some of the summits attain a great height. Monte Rotondo is 9060, and Monte Paglia Orba 8691 feet above the sea. The valleys are numerous but very narrow, and of indifferent fertility.

Passing to the countries north of the Alps we find that this great mountain-system, at its western extremity, is bounded on the north by the river Rhone, from the point where it issues from the lake of Geneva to its junction with the river Saone. Immediately north of the Rhone there rises another chain of mountains, different in character and in elevation, called the Jura. This chain extends from the banks of the Rhone, in a north-east direction, to the river Rhine, on whose banks it terminates between the mouth of the river Aar and the town of Basel. Its length may be about 160 miles, and its width less than 20 on an average. It consists of a number of parallel ridges, rising upwards of 1000 feet on a base which is nearly 3000 feet above the sea. Some of the summits exceed 5000 feet in absolute elevation. The highest are towards the southern extremity of the range. The Pré des Marniers attains 5640, Reculet 5619, and the Dole 5500 feet.

Along the south-east side of the Jura, and between it and the Alps, extends the plain of Switzerland, beginning on the shores of the lake of Geneva and terminating on those of the lake of Constance. This plain is between 1250 and 1350 feet above the level of the sea. At each extremity some hills rise to a considerable height, but the central districts exhibit only a strongly undulating surface. Its length may be about 180, but the width does not exceed 20 miles.

Opposite the northern extremity of the Jura, but on the northern banks of the Rhine, rises the Black Forest, a mountain-range, about 20 miles across, which runs parallel to the Rhine, and whose western sides approach the river sometimes within three or four miles. It terminates on the banks of the river Neckar. Its length may be between 130 and 140 miles. The upper part of this range extends in wide plains more than 3000 feet above the sea; the number of summits which rise above these plains is not great. The Feldberg attains 4912 feet, and the Kandel 4160 feet above the sea. The Odenwald, which extends between the Neckar and Mayn, in the same direction, may be considered as its continuation, but it does not attain an equal elevation, its highest summit, the Katzenbuckel, rising only to 2000 feet.

Between the Black Forest and the Odenwald on the east, and the Vosges mountains on the west, lies the valley of the Rhine, which is about 20 miles in width, but the length from Basel to Mayence is not less than 200 miles. At its upper extremity it is 800 feet, but at its lower hardly more than 400 feet above the sea. This valley presents a level surface of great fertility.

The Rhine, below the great cataract of Schafhausen, is not more than 1000 feet above the level of the sea; but the Danube, at Donaueschingen, nearly under the same meridian, is 2200 feet above it; yet between both rivers no mountain-range occurs. With only a hilly surface, and in an extent of hardly 15 miles, the country rises more than 1200 feet. This hilly country may be considered as the commencement of the elevated plain of Bavaria, which extends from the foot of the

Alps (about 47½° N. lat.), between the Black Forest and Odenwald on the west and the Böhmerwald (forest of Bohemia) and Fichtelgebirge on the east, to the Thüringer Wald and the Rhöngebirge (51° N. lat.). The length of this plain is about 180 miles, and its breadth about the same. The western part of the plain, which joins the Black Forest, is hilly, and intersected by a mountain-ridge, called the Rauhe Alp, which runs along the northern bank of the Danube for 70 or 80 miles, with a mean width of about 16 miles. South of this ridge the country is nearly 2000 feet above the sea, but north of it less than 1000 feet. The eastern part of the plain, south of the Danube, is nearly a level, which sinks gradually and almost imperceptibly from the foot of the Alps towards the river. The town of Munich, which nearly occupies its centre, is 1664 feet above the sea, and Ratisbon, on the Danube, more than 1000 feet. That part of the plain which lies north of the Danube has an undulating surface, upon which some hills rise towards the banks of the river Mayn. From the banks of the Danube the country rises slowly, but hardly more than 150 feet above the river, when it forms the water-shed between the Danube and Mayn, and begins to subside towards the bank of the last-mentioned river, where it is only from 600 to 800 feet above the sea.

The elevated plain of Bavaria does not extend far enough north to reach the Great Plain, being divided from it by a mountain-region which extends between 50½° and 52° N. lat. over the whole of Germany, from the very banks of the Rhine to the Fichtelgebirge and Erzgebirge. This region, which has a width of about 100 miles, contains a great number of ridges, bearing different names. Their mean elevation is about 3000 feet, and the highest summits attain upwards of 4000. The most northern of these ridges is the Harz.

The countries which we have hitherto considered are to the north of the Higher Alps. To the north of the Lower Alps, and divided from them only by the narrow valley of the Danube, is another system of mountains, which encloses, in the form of a quadrilateral figure, the kingdom of Bohemia, and might therefore be called the Bohemian mountains. The several ridges of which it consists have different names. They attain a mean elevation of 3000 or 3500 feet above the sea; their highest summits rarely exceed 5000 feet. The great valley of Bohemia, which is enclosed by these ridges, is subdivided into numerous smaller valleys by the lower ridges, which advance into it from those which surround it. Near the higher ridges the surface of these valleys is 1500 feet and upwards above the sea, but they subside rapidly towards the middle of the great valley, where they are not more than 700 and 900 feet above the sea. Where the Elbe carries off the waters of Bohemia, it is somewhat less than 400 feet above the sea.

At the eastern extremity of this mountain-system, where the rivers Oder and Morava take their origin, the Carpathian Mountains commence. They run first due east, then decline to the south-east, and when in that direction the range has passed 26° E. long., it turns suddenly to the west, and having proceeded in that direction to 23° E. long. it gradually declines to the south, and terminates on the banks of the Danube on both sides of the meridian of 22°. The length of this range does not fall much short of 800 miles; its breadth is not very considerable, in a few places only exceeding 70 or 80 miles. Its mean elevation may be between 3000 and 4000 feet; but in two places it rises much higher: Mount Tatra, which is intersected by 20° E. long., is an enormous mass of rock, about 50 miles long and 30 wide in the central parts, whose surface is about 7000 feet above the sea. Above this huge mass there rise about ten peaks which exceed 8000 feet. The highest is the Peak of Lomnitz, which rises to 8675 feet above the sea. The Peak of Eisthal (dale of ice) is 8640, and the Krywan 8150 feet high. Elevated summits occur again on the most southern part of the range, where the Buzeed attains 8760 feet, and Mount Surul 7572 feet. Towards the great plain, and on the north and east, the range sinks with gentle slopes, forming no offsets, except a few short ones at the sources of the rivers Pruth, Serith, and Suczava, between 47° and 48½° N. lat. But some considerable offsets occur towards the two extremities of the range. Four chains are detached from it between 18° a[illegible]0° E. long., which run southward and terminate not far from the banks of the Danube, after traversing the north-western part of Hungary: they are comprehended under the general term of Hungarian Ore Mountains, from their being rich in gold and silver ore. The valleys between them are wide and fertile. No considerable chain branches off from the middle part of the range, but from its eastern extremity four or five ridges issue: these ridges running in a western direction some hundred miles, traverse Transylvania, and render the whole of this country a succession of mountains and wide valleys, which are generally very fertile.

Between these offsets of the Carpathians on the east, the principal range, and the Hungarian Ore Mountains on the north, and the eastern termination of the Alps (16° E. long.), lies the plain of Hungary, the most extensive that is included within the South European mountain-system. It extends from north to south about 300 miles, and its mean breadth is not less. The Danube traverses it. To the west of the Danube is a small range on the plain, the Bakony Mountains, which rise in their highest part somewhat more than 2000 feet; and farther south (near 46° N. lat.), the hills of Funfkirchen occur: but both these ranges occupy only a small surface. The plain east of the Danube is a dead flat. That portion which lies west of the Danube is fertile, as well as that which skirts the Hungarian Ore Mountains, but by far the greater part of it is either covered with sand or swampy, and affords only indifferent pasture. This great plain towards the south is only 300 feet above the sea, but towards the north it rises to 400 and 450 feet.

South of the Carpathian Mountains, and between them and the lower course of the Danube, extends the plain of Wallachia, 250 miles in length from west to east, and about 100 miles in breadth. It is generally level, but towards the mountains undulating; in its lower parts along the Danube it is only about 100 feet above the sea. It is of great fertility, but in many places swampy.

The third great division of the South European mountain-system is formed by the Balkan, which, with its numerous branches, traverses the most eastern of the three great southern peninsulas, which advance from the body of the continent into the Mediterranean Sea. The Balkan range is not disjoined from the Alps by any natural separation, but is so closely connected with them as to form a continuation of that mountain-system. Geographers have however assumed a dividing line about 18° E. long.

From this line the principal range of the Balkan runs in a south-east direction till it reaches 22° E. long, from which point it continues in a general due east direction till it terminates on the shores of the Black Sea in Cape Emineh. The length of this chain may be about 600 miles. Its elevation is considerable west of 24° E. long., especially between 22° and 24° E. long., where a great part of the chain, called here Shardagh (Scardus) and Egrisu Dagh, is covered with perpetual snow, which shows that it must rise at least to 9000 feet. East of 24° E. long. it does not rise so high, and it is supposed that in this part its mean elevation varies between 3000 and 4000 feet. The extent of country covered with this range and its numerous branches is very great. West of 24° E. long., all the immense tract which lies between the Save and Danube on the north and the Adriatic as far south as Cape Linguetta or Karaburnu, presents nothing but a continuous succession of high mountains and generally very narrow valleys, and is probably the most rugged part of Europe: it is certainly the least known. The country which lies between the great range and the Danube, east of 24°, is only mountainous near the foot of the range, for its offsets rapidly decrease in height, and subside as they approach the river, on the banks of which the country exhibits merely an undulating surface.

From the southern side of the Balkan three ranges branch off: the eastern, which leaves the principal range about 70 or 80 miles from the Black Sea, is called Strandja or Stanches Dagh, and runs south-east, parallel to the Black Sea, but gradually approaching it. About 50 miles west of Constantinople it turns to the south, and terminates at the mouth of the river Maritza, the ancient Hebrus. The latter portion is called Tekir Dagh. Both parts are of moderate elevation. The second range branches off from the Balkan east of 24° E. long., and runs first south-east till it approaches the Ægean Sea, within 20 or 30 miles, when it turns east and terminates nearly opposite the Tekir Dagh, on the banks of the Maritza. This chain, called Despoto Dagh, rises to a considerable elevation, though none of its summits seem to attain the snow-line.

The country between the Strandja Mountains, the Despoto Dagh, and the Balkan is only mountainous towards the two last-named ranges; the greater portion of it rises only into hills, separated from one another by wide valleys, which in several places spread out into plains of moderate extent. This country possesses great fertility, and is one of the finest parts of Europe.

The third and most considerable range, which branches off from the Balkan on its southern side, since no modern name has been assigned to it, may be called by the ancient denomination of Pindus. It leaves the principal range near 22° E. long., and runs south, forming the watershed between the rivers which fall into the Adriatic and those which empty themselves into the Ægean Sea. It may be considered as terminating south of 39° N. lat. with Mount Veluchi (7657 feet high). The length of this chain is upwards of 200 miles; and the greatest part of the upper range is for eight or nine months, and some summits probably the whole year round, covered with snow.

The country between this range and the Adriatic is very mountainous: it generally consists of high ranges and deep and narrow valleys, though in some places there are elevated plains of moderate extent, as that on which the town of Joannina (or Yanina) is built, which probably is at least 1500 feet above the sea.

The countries to the east of the Pindus range are less mountainous. That portion which extends north of 40° N. lat. contains high summits and ridges near the great range; but as it approaches the sea the mountains subside into hills, and the valleys widen by degrees into plains. Mount Athos, or Hagion Oros, terminates the most eastern of three projecting tongues of land, and rises abruptly to the height of 6319 feet.

Near 40° N. lat. a lateral chain branches off from the Pindus range. It is called Volutza Dagh, and runs east, terminating near the sea in Mount Olympus, which attains the height of 6520 feet. Near 39° N. lat., between Mount Itamo (5789 feet high) and Mount Veluchi (7657), two lateral chains branch off to the east and terminate respectively on each side of the Gulf of Zeitoun. In the northern range, called by the Greeks that of Othrys, the Ieracovouni rises to the height of 5670 feet. In the southern range, known among the ancients by the name of Oeta, the Katavothron rises to 7070 feet. Between the Othrys, the northern of these two ranges, and the Volutza Dagh is the plain of Thessaly, celebrated from the most remote antiquity for its beauty and fertility. Though it extends nearly 60 miles from north to south, it is much narrowed by hills, which advance from the neighbouring ranges 15 or 20 miles into the plain, and on the sea side it is shut in by a barrier of mountains.

The country south of the Oeta range and the Gulf of Arta is mountainous in its western districts, but farther east it assumes a more undulating surface, though some of its numerous elevations rise to the height of mountains, as Mount Parnassus, which is supposed to rise to 6000 feet, and several others are perhaps not much lower.

Round the lake of Topolias, the ancient Copais, there is an extensive plain, whose surface is several hundred feet above the sea level, and walled in on the east by the high mountains which line the western margin of the Euripus. Some of these mountains are above 2000 and others above 3000 feet high.

The peninsula of the Morea is united to the continent by a rocky isthmus which in one part contains a considerable depression, across which several attempts were made in ancient times to cut a canal. The Morea preserves the character of the countries which are dependent on the Balkan, being very mountainous, especially in its eastern parts, where several lofty ranges run in a south-eastern or southern direction. Mount Zyria, the Cyllene of the Greeks, seems to be the knot where the ranges unite. Cyllene is 7744 feet high, but the Pentedaktylon (Taygetus), in the southern part of the peninsula, rises to 7920 feet. The central districts of the peninsula contain some elevated plains which are probably as high as the interior of Spain. Tripolitza is 2224 feet above the sea, and Madrid, according to Bauza, is 2222 feet above the same level. In the western districts the mountains gradually subside into hills; and several plains of moderate extent occur along the bay of Koron and the banks of the Alpheius.

The mountains of the island of Eubœa, which lies parallel to the coasts of Attica and Eubœa, belong to the mountain-system of Othrys and of Oeta, from which they are separated on the north and west by those prodigious fissures which form the sea-valleys or channels of Trikiri and the Euripus.

The Great Plain.—Beginning at its western extremity, we find that between the mouths of the Schelde and the Elbe the country hardly in any place rises to more than 100 feet above the sea. The surface is covered with a succession of moors and heaths, ill adapted for agriculture, except in the alluvial tracts along the rivers. But this sterile country is surrounded by fertile marshes, which run along the shores of the North Sea, and are so low that it is necessary to defend them by dykes from the invasion of the waves. The width of these marshes varies from one to four or five miles, except at the western extremity, where they occupy the whole of the province of Holland. Towards the banks of the Elbe the soil mostly consists of sand, but here it begins to be covered with forests.

The countries between the Elbe and the Vistula are more fertile, though the sandy soil prevails, especially towards the north; yet even here extensive tracts of fertile land occur. Towards the mountain region which borders on it on the south, especially in Silesia and the southern districts of Poland, the country may be considered rather fertile. No marshes occur along the Baltic, but at the south-western extremity of this sea a series of small lakes begin which run parallel to the shore and follow its sinuosities. Their distance from the sea is about 50 miles, and they are situated on the highest part of the plain, perhaps at a mean elevation of 150 feet. They form the watershed between the small rivers which fall into the Baltic and those which run southwards into the interior of the plain.

That portion of the plain which we have so far noticed is drained by rivers which originate in the mountain region south of it, and traverse it in a north-western or northern direction. But east of the upper branches of the Vistula the rivers originate in the plain itself which they drain. These rivers run either north-west and north to the Baltic and White Seas, or south and south-east to the Black and Caspian Seas. The watershed which separates their sources begins about 23° E. long. on the northern declivity of the Carpathian Mountains, in a range of hills which separate the Saan, a branch of the Vistula, from the sources of the Dniester. This range of hills runs in a north-eastern direction to the sources of the Bug, another tributary of the Vistula, where it turns north, and is lost in the plain. It is soon replaced by an immense swamp, the largest in all Europe. The principal body of this swamp covers nearly the whole basin of the river Priepec, which extends about 200 miles east and west, with an average breadth of 100 miles. It also continues northward, but with a much diminished width, between the sources of the Niemen, Beresina, and Vilia, and terminates on the banks of the Düna, south of Dünaburg and Polotz. The surface covered by this swamp is perhaps not inferior to that of England.' Some parts of it are wooded. We do not know what is the elevation of this swamp above the level of the sea, but we may conjecture that it is not less than 300 feet. Towards the northern extremity of the swamp the watershed turns due east, and is here formed by an undulating country which separates the upper courses of the rivers Düna and Dnieper. But where it approaches the sources of the Volga it turns first north-east and then north, and here it is overtopped by steep and rocky hills, called the Hills of Waldai, which rise highest in the neighbourhood of that town, where they attain an elevation of 1200 or 1300 feet above the sea. This seems to be the highest point of the watershed. It continues in a northern direction till it passes 60° N. lat. between the lakes of Onega and Bielo Osero, and then turns south-east to the sources of the Suchona, the principal branch of the Dwina: thence it proceeds in an east-north-east direction to the sources of the Petshora, which falls into the Arctic Sea, and of the Kama, a branch of the Volga, where it terminates in the Ural range. That portion of the watershed which is east of the hills of Waldai is covered with an immense forest, called the Forest of Volkhonsky.

The country north of the watershed is, in general, of moderate fertility; there are some districts which are covered with sand, while others have a rich soil. That series of small lakes which we noticed in the western part of the plain continues in this at nearly the same distance from the Baltic, forming likewise a subordinate watershed. East of 22° E. long., however, it stretches farther inland, approaching the northern extremity of the great swamp, and then continues north of it along the watershed to the hills of Waldai, and still farther in the Forest of Volkhonsky, where it terminates near 35° E. long.

The country north of 60° N. lat. is only in a few places fit for agriculture, partly on account of its cold climate, and partly on account of the sterility of the soil. That portion which lies west of the lake of Onega is rocky, and is mostly traversed by ridges of rocky hills, which lie in a north and south direction. These hills rise in some places to 500 or 600 feet above the sea. Most of them, as well as the level country between them, afford excellent pasture-ground. This region is remarkable for the numerous large lakes which cover nearly one-fourth of its surface, and are connected by short natural channels. The largest of these lakes are the Ladoga, Onega, Saïma, and Enara.

There are only a few lakes east of the lake of Onega. It appears that the watershed here rises to a greater elevation, and that the slope of the country is more regular. Its southern districts are still covered with forests, and a few spots are cultivated; but the northern districts extend in immense plains, covered with moss, which by attracting the water of the melting snow renders them impassable for the greatest part of the summer. A few rocky ranges of hills occur on this plain, but we are not acquainted with their direction and elevation.

By far the larger part of the Great Plain extends to the south of the watershed. Contiguous to its southern declivity extends a country of great fertility, from 300 to 400 miles in width. It begins on the west near the foot of the Carpathian Mountains, and terminates on the east where the Volga begins to run south-south-west. The parallel of 49° forms its southern boundary as far east as about 40° E. long., whence it runs in a north-eastern line to the town of Simbirsk on the Volga. The town of Moskwa, situated nearly in its centre, is 480 feet above the sea. The country east of the Volga, as far as the Ural range, is mostly covered with hills, and is even mountainous, being traversed by the offsets of the great range: it is of moderate fertility in the valleys, which are frequently wide. The hills and lower parts of the mountains are covered with forests.

[illegible] the south of this region extend the deserts which are called the Steppes. They may be divided into the Higher and Lower Steppes, the line of separation between them being the high ground which extends north and south between the Don and Volga. The Higher Steppes occupy the western part of the plain, extending south of the fertile region to the very shores of the Black Sea. Their elevation above the sea may be between 150 and 200 feet. They are without trees, produce only in some places a few shrubs, and are overgrown in the early part of the summer with a coarse grass, which makes very indifferent pasture. In the latter part of the summer and autumn their dry brown surface shows no sign of vegetation. Agriculture can only be carried on in the narrow bottoms along the rivers. The peninsula of the Crimea is connected with them by a low isthmus. Three-fourths of its surface resemble the Lower Steppes; but on its southern shores rises a mountain-range, whose highest summit, the Chatyr Dagh, is 5040 feet. The valleys of this range are fertile.

The Lower Steppes are at the eastern extremity of Europe, extending between the southern extremity of the Ural range and Mount Caucasus along the banks of the river Ural, and on both sides of the lower course of the Volga. They occupy a space more than twice as large as the area of the British Islands. The southern part is lower than the level of the sea. The town of Saratow on the Volga, more than 300 miles from the Caspian, is not above the sea level. We do not know how much higher the northern districts of these steppes rise, nor if their soil differs from that of the southern, which are covered with a fine sand, intermixed with shells, producing no trees nor shrubs, but at certain seasons a scanty grass. This soil is strongly impregnated with saline matter, and most of the lakes which occur here contain such a quantity of salt that it crystallises in summer, and supplies the greater part of the inhabitants of Russia. In no part of these steppes are any traces of agriculture visible except in the neighbourhood of Astrakhan.

We shall conclude this general survey of Europe by observing that the Ural range, which runs about 1500 miles, first south and then south-south-east, rises in its highest summit, the Pawdinskoi Kamen, to more than 6800 feet above the sea; that the Lower Steppes extend east of the river Ural far into Asia; and that Mount Caucasus, though only few of its summits attain the snow-line, rises in its highest summit higher than the Alps, Mount Elboorz attaining an elevation of 16,800 feet.

Seas.—Looking at the map of Europe we find that the coast-line is formed alternately by wide projecting promontories and deep bays, which divide them from one another. This peculiarity has led a large proportion of its inhabitants to a seafaring life; and as the winds and weather in the waters that surround this continent are not regulated by the seasons of the year, but are subject to continual changes, this circumstance has given to them that boldness in maritime enterprise which forms the most distinguishing feature in their character, and raises them above most other civilised nations of the globe.

Europe, in fact, considered by itself, is only a large peninsula, which is further cut up into a great number of smaller peninsulas by the interior seas and gulfs which penetrate far inland into the main mass of the peninsula; consequently, in proportion to its surface, it presents a much greater extent of coast than any other of the great divisions of the globe, as will appear by the annexed table, which however must be considered only as a rough approximation :—

	Surface in square miles.	Coast-line. Miles.	Ratio of one mile of coast-line to area in square miles.
Asia	18,000,000	35,000; or, including the islands, 40,000.	500; or, including the islands, 420.
Africa	14,000,000	16,000	900
Europe	3,900,000	20,000	195
America	15,000,000	32,000 (without the coast of the Arctic Sea).	470

The Atlantic Ocean, with which all the seas that wash the shores of Europe are connected, except the Caspian (and this is rather to be considered as an imm[illegible] inland lake), forms the Bay of Biscay between Cape Fi[illegible]erre and the island of Ushant, the English Channel between the northern coasts of France and the southern coasts of England, St. George's Channel, between Great Britain and Ireland, and the North Sea, which separates Great Britain from the Netherlands, Germany, Denmark, and Norway. The North Sea might be considered a closed sea, as it is united on the south to the great expanse of the Atlantic only by the straits of Dover, which, between the South Foreland in Kent and Cape Grisnez in France, is only 18 miles wide, and by the comparatively narrow channel called the English Channel, if it were not on the north connected with the Atlantic by the open and wide expanse of sea which separates North Britain from Norway.

The close seas, which are united to the Atlantic by straits, are the White Sea, the Baltic, and the Mediterranean; the Black Sea and the Sea of Azof are connected with the Mediterranean.

The White Sea, the smallest of these inland seas, covers about 40,000 square miles. The strait by which it is connected with that portion of the Atlantic which is called the Arctic or Icy Sea is about 200 miles long and of considerable width, its narrowest part being from 30 to 40 miles across. This sea is entirely or partially covered with ice during four or five months of the year. Into its eastern part the Dwina falls, and into the wider part of the strait the river Mezen.

The Baltic is connected with the North Sea by a channel of about 80 or 90 miles of average width; this channel branches off from the North Sea in an east-north-east direction, but afterwards suddenly turns south. That portion which is connected with the North Sea and extends to the east-north-east is called Skagerack, or the Sleeve by the British sailors, and the other part which lies south and north the Cattegat. At the southern extremity of the Cattegat are the three straits by which the Baltic is entered like three gates. The Sound, between Zealand and Sweden, is the passage generally taken by vessels; it is at the narrowest place only about two miles wide. The Great Belt is in the middle between Zealand and Funen, and eight miles across at the narrowest place. The Little Belt, which is only three-quarters of a mile wide in the narrowest part, separates the island of Funen from the peninsula of Jutland. The Baltic forms three great gulfs—those of Riga, Finland, and Bothnia. Receiving, by the numerous rivers which fall into it, great masses of fresh water, it is less salt than the Atlantic. This circumstance and the small depth of its waters sufficiently explain why ice is formed nearly every year along the shores, and the navigation is interrupted for three or four months.

The Mediterranean is connected with the Atlantic by the strait of Gibraltar, which is about 10 miles across. It is the largest of the close seas which wash the shores of Europe, but it receives the drainage of a comparatively small portion of its surface; the number of rivers which fall into it is very considerable, but few of them run 100 miles. Evaporation carries off a larger portion of its waters than is supplied by the rivers which flow into it, and there is accordingly a strong current setting continually through the straits of Gibraltar. A motion of its waters towards the east is proved by vessels requiring a larger time to sail from the coast of Syria to Gibraltar than from Gibraltar to Scanderoon. The water is salter than that of the Atlantic. It also forms several large gulfs, as, on the European side, the Bay of Lyon, that of Genoa, the Adriatic, and the Ægean Sea, or Archipelago. By means of the Archipelago, the Straits of the Dardanelles (one mile across where narrowest), the Sea of Marmara, and the channel of Constantinople (six furlongs across at the narrowest place), the Mediterranean is united to the Black Sea, from which a constant current pours through the narrow straits into the Ægean. The Black Sea is connected by the strait of Yenikale with the Sea of Azof; it is less salt than the Mediterranean, and its northern shores in winter are frequently fringed with ice.

The Caspian Sea, whose north-western shores only are included in Europe, is the largest of the numerous seas without an outlet which occur in the north-western regions of Asia. Ice is formed every winter along its northern shores. The water is salt, but only in a slight degree:—

Seas.	Extent, sq miles	Specific gravity of its waters
Mediterranean	760 000 . . .	1.0293
Black Sea and Sea of Azof	190 000 . . .	1.0142
Caspian	180 000	
Baltic	110,000 . . .	1.0040
White Sea	40,000 . . .	1.0190
Atlantic Sea in the northern hemisphere	. . . . . .	1.0283

When we consider these seas as the receptacles of the drainage of the adjacent countries, we find that those towards the east have the most extensive basins. The basin of the Caspian Sea, though it is only drained by two large rivers, the Volga and the Ural, occupies a surface of 850,000 square miles, as far as it belongs to Europe, and runs with its northern boundary along the parallel of 60° N. lat. The basin of the Volga, the largest of the rivers of Europe, contains an area of above 750,000 square miles. The basin of the Black Sea is somewhat larger. Its south-western boundary is formed by the principal range of the Alps; its north-western by a line drawn from Switzerland to Moscow; and another line, from this city to the mouth of the Volga, forms its north-eastern border. Its area in Europe is rather more than 900,000 square miles. The countries which are comprehended in the European part of its basin are drained by the Danube, Dnieper, Dniester, Don, and Kuban, and their tributaries. The basin of the Baltic is nearly equal in extent, including the Cattegat and Skagerack, being on all sides surrounded by countries which belong to Europe; this basin extends over a surface of nearly 900,000 miles, though perhaps none of its rivers rise more than 350 miles from its mouth in a straight line. The great rivers which fall into the Baltic are the Oder, Vistula, Niemen, Düna, Newa, and the numerous rivers descending from the Scandinavian range, as the Tornea elf, Calix elf, Lulea elf, Pitea elf, Scaleftea-elf, Umea elf, Angerman elf, Indals elf, Ljunga-elf, Ljusna-elf, and Dal elf; and likewise the Gotha elf, and Glommen, which fall into the Cattegat and Skagerack. The basin of the White Sea is drained by the Dwina, the Mezen, and Petshora, and some other smaller rivers, and occupies a surface of about 400,000 square miles. Though the coast line of the Atlantic from Cape North Kyn to Cape Tarifa comprehends the whole of the shores of the western declivity of Europe, including the British islands, its basin probably does not much exceed 600,000 square miles. No considerable river flows into the Atlantic between Cape North Kyn and the mouth of the Elbe. Into the North Sea there flow the Elbe, Ems, the Rhine, Schelde, and of the rivers of Great Britain, the Spey, Tay, Forth, Humber, and Thames; into the English Channel, only the Seine; into St. George's Channel, the Severn; into the Bay of Biscay, the Loire and Garonne; and immediately into the Atlantic the Clyde, the Shannon, the Duero, Tajo, Guadiana, and Guadalquivir. The basin of the Mediterranean, including the Archipelago, is by far the smallest of all those which belong to the inland seas of Europe, comprehending only about 250,000 square miles. The largest of its rivers, the Rhone, flows only 500 miles, including its bends. The other rivers, which are of considerable length, are the Ebro in Spain, the Po and Tiber in Italy, and the rivers of Albania and the Maritza in Turkey. All the rivers which drain the basins of the Mediterranean and Atlantic Sea rise in the South European mountain region; those which fall into the Black Sea rise within the Great Plain, except the Danube and its tributaries, which drain about one-third of the mountain region. The rivers which run to the Caspian rise partly on the watershed of the Great Plain, and partly in the Ural range; and the same is the case with those that drain the basin of the White Sea. The rivers which flow from the east into the Baltic rise on the Great Plain; those which flow into it from the [illegible] rise on the edge of the mountain region; and those [illegible] fall into it from the north descend from the Scandinavian range.

Climate.—The climate of Europe presents great differences, if we compare it with that of those countries in other divisions of the globe which lie within the same parallels. It is a well-established fact, that the eastern coast of North America is much colder than the western coast of Europe, under the same latitudes. This difference is in some places equal to 10° of latitude. Thus we find that the mean annual temperature of London (51° 31′ N. lat.) is nearly 50° Fahr., while at Quebec (46° 48′ N. lat.) it hardly exceeds 42° Fahr. At Lisbon (38° 43′ N. lat.) it is 61½° Fahr., and at Williamsburg, in Virginia (37° 5′ N. lat.), only 56° Fahr. It is however worthy of remark, that the eastern countries of Europe, especially those north of the Black Sea, are much colder, and approach in climate to those of the eastern coast of America. At Moscow (55° 47′ N. lat.) the mean annual temperature is not quite 38° Fahr., whilst at Edinburgh (55° 58′ N. lat.) it exceeds 47° Fahr.

This difference in the climate of Europe may perhaps be explained by the circumstance that this continent is enclosed on most sides by seas whose water is warmer than that of the ocean at large. The water of the Mediterranean is from 4° to 5° Fahr. warmer than the ocean without the straits. Between America and Europe the warm water of the gulf-stream, which exceeds the heat of the other water of the Atlantic by 8° or 10° Fahr., covers a surface not inferior to that of the Mediterranean, and the exhalations of this immense expanse of warm water are carried by the prevailing western and south-western winds to the western shores of Europe. Besides this, the water in the sea between Spitzbergen, Greenland, and the coast of Norway indicates a higher degree of temperature when drawn from some depth under the surface of the sea than on the surface itself. This has been proved by the experiments of Sir John Franklin and Captain Scoresby, though the contrary is the case in all other seas, as far as we know.

Dr. Brewster, however, thinks that there are two frigid poles in the northern hemisphere, and that the degree of warmth increases with the distance from the meridian in which these poles are situated. By comparing the few exact meteorological observations which have been made in remote countries, he is induced to infer that these meridians are about 90° from the western countries of Europe, and hence he presumes we may account for the greater mildness of the climate in these regions. The observations which the latest traveller through the north of Asia, Dr. Erman, has made in those remote countries, seem rather to confirm than to contradict the theory of Dr. Brewster.

With respect to climate, Europe may be divided into three zones, the northern, the central, and the southern. These zones may be separated from one another by two lines, of which the northern begins near 60° N. lat., on the western coast, and terminates between 55° and 51° N. lat. at the Ural range on the east; the southern commences about 46° N. lat. on the west, and terminates on the east at the mouth of the Danube (45° N. lat.). In the northern zone only two seasons occur, summer and winter; the former lasting about three months (June, July, and August), and the latter nearly nine months. These seasons are separated by a spring and autumn of a few days', rarely two weeks' duration. In summer the heat is very great, and the vegetation inconceivably rapid. The winter is severe and boisterous, and brings down immense quantities of snow. In the central zone the four seasons are distinct, and the passage from heat to cold and *vice versâ* is very gradual. The heat is less than in the northern zone, and so is the cold during the winter; still frost prevails during two, three, or four months, and snow is common except on the coasts. In the southern zone frost is either not felt at all or only during a few days; and snow is of rare occurrence, or it does not lie on the ground for more than a few days. Vegetation, accordingly, is very little interrupted. But the countries within this zone have abundant rains during the last three months of the year, and are subject to great and long droughts in summer. These droughts frequently continue for four or five months, and in some places occasionally for eight or nine months.

IV. *The Man of Eur*[illegible]—Nearly the whole population of Europe belongs to that [illegible] which is comprehended under the name of the *Caucasian* race; but along the Ural range, and at the most northern extremity of the continent, a few nations occur which belong to the Mongol race; to which must be added the Magyars, who inhabit nearly the centre of Europe (Hungary).

The inhabitants of the Caucasian race may be divided into three great branches and several smaller ones, if we consider them with reference to their language. The first division comprehends those languages which are derived from the Latin and an admixture of the languages of the ancient aborigines, and of the later destroyers of the Roman empire. These languages are spoken in the peninsulas of Italy and Spain, and in the countries west of the valley of the Rhine. They are the Italian, Spanish, Portuguese, and French languages. In some districts of the countries where these languages are spoken, there still exist the languages of some of the aboriginal inhabitants of Europe. On both sides of the western extremity of the Pyrenean mountains, south and west of the river Adour, the Basque language is spoken by a population of about 600,000 souls. The Cymric language is spoken in Wales, and also in the interior districts of the most north-western peninsula of France, which is called Bretagne, by a population amounting to about 2,000,000 individuals. The most extensive of these languages is the Celto-Gaelic language, which is still prevalent in the greater part of Ireland, and in some of the northern districts of Scotland. Many persons think that the Cymric and Celto-Gaelic languages ought to be considered only as dialects of the same original language.

The second great branch of the languages is formed by those of Teutonic origin. These languages are spoken by the inhabitants of England, a great part of Scotland and Ireland, Iceland, Norway, Sweden, Denmark, Germany, and the Netherlands. In every one of these countries a peculiar dialect is spoken, though the affinity of all these languages cannot be questioned. It would seem as if these languages had been introduced into these countries by their first inhabitants, or aborigines, as at present no other language is spoken in any of these districts (with the exception of the British islands), nor do we find any mention in historical records of such other languages ever having existed.

The third great family of languages is comprehended under the name of Slavonian. The most western tribes that speak these languages are found in the eastern districts of Germany. The Czekes inhabit Bohemia, and the Wendes the north-western part of the Prussian province of Silesia. In the south-western part of the same province Polish is spoken. Between Vienna and Trieste is another Slavonian tribe, also called Wendes, or Windes, by the Germans; but they call themselves Slovenzi. Towards the south the Slavonian language extends to the very summit of the Balkan, the inhabitants of Dalmatia, Croatia, Slavonia, Bosnia, Servia, and Bulgaria, speaking dialects of that language. From these extreme points the Slavonian language is spoken over the whole of the great plain of Europe to the borders of Asia, on the Ural range, and on the river Ural. The most extensively spoken languages of this family are the Russian and the Polish.

In the immense tract of country in which the Slavonian language may be considered as prevalent, some extensive districts are occupied by nations who speak different languages. We shall first notice the tribes of Mongol origin, who form three different groups. The most numerous tribe are the Magyars, who inhabit the greater part of the Hungarian plain, especially that portion which lies east of the Danube, from the banks of which river they extend to the foot of the Carpathian Mountains, where they are surrounded by Slavonian tribes. The second group of nations of Mongol origin occupy the countries between the Scandinavian Peninsula on one side, and the White Sea and the three great lakes of Ladoga, Onega, and Peipus on the other side. The Laplanders inhabit the country between the northern extremity of the Gulf of Bothnia and the White Sea; the Finns occupy the country farther south, as far as the Gulf of Finland. At the most eastern part of this gulf live the Inghers, and south of it the Esthonians and the Livonians, who extend to the southern part of the Gulf of Riga. All these nations speak dialects of the same language, which is said to have a great resemblance to the language of the Magyars. The third group of the Mongol tribes occupy the countries along the Ural range, and between the rivers Ural and Volga. The most northern tribe are the Samoyedes, who occupy the eastern portion of the government of Archangel, between the river Metzen and the Ural range. South of them, in the eastern districts of the government of Wologda, are the Siryanes, who also occupy the northern part of the government of Perm. In the southern districts of this government are the Permiens, the Wogules, and Wotjakes. Here are also a few families of the Mordwines, Cheremisses, and Chuwashes, who are dispersed over the surface of the governments of Viatka, Kasan, Simbirsk, and Pensa, where they inhabit an extensive district on the west side of the Volga. Their neighbours on the other side of the Volga are the nomadic tribes of the Calmucks and Kirghises. The former occupy the countries contiguous to the Volga, on its eastern bank; but the Kirghises inhabit those between the river Useen and the river Ural. The two latter tribes are Bhuddists. To these tribes are still to be added the Bashkirs, who, in their stature and the conformation of their face, evidently show their Mongol origin, though they speak a Turkish dialect. They inhabit the most eastern part of Europe, the northern portion of the government of Orenburg, and some districts of that of Perm, on both sides of the Ural range.

Different both from the Mongol languages and those of the Slavonian tribes are the languages spoken by the Lithuanians and Courlanders, two small nations that inhabit the countries between the rivers Niemen and Duna, and extend over the northern districts of eastern Prussia and the Russian governments of Grodno, Minsk, Wilna, and Mitau.

The Wlaches, or inhabitants of Wallachia and Moldavia, speak a peculiar language, with which a great number of Latin words are mixed up. Hence it is inferred that their ancestors inhabited these countries when they were subject to the Roman empire.

The eastern peninsula of southern Europe is inhabited by nations who speak three different languages. The most numerous are those who speak the Turkish language, which is used by the Osmanlis or Turks, and the Tartars. Some tribes of the latter nation are also dispersed among the Slavonian nations, on the northern shores of the Black Sea, where they are known by the names of the Nogai Tartars and Meshtcheryakes. They are most numerous in the Crimea, and along the northern declivity of the Caucasus. The Osmanlis form the bulk of the population in those parts of Turkey which lie between the Balkan and the Volutza range. The mountainous countries west of the Pindus range are inhabited by the Albanians, who speak a peculiar language, and are considered as the descendants of the Illyrians, the aborigines of these countries. The most southern part of the peninsula is inhabited by the Greeks, who form the bulk of the population in Greece, and also in that portion of Turkey which lies between the Volutza and Othrys ranges. Their language does not differ substantially from the ancient Greek, of which it is a corrupted form, mixed up with some Latin, Italian, Turkish, and other foreign words.

Population and Political Divisions.—The population of Europe is estimated to amount to about 230 millions in round numbers. The Christian religion is that which generally prevails. The Roman Catholic faith is nearly exclusively professed by the inhabitants of Portugal, Spain, and Italy, and also by the majority in France, Austria, Bavaria, Poland, Belgium, and Ireland. Roman Catholics are also numerous in some cantons of Switzerland, and in some provinces of Prussia and of Russia. The whole number of the adherents of this faith is calculated to amount to 112 millions. To the Greek church belong the Russians and the Greeks; and a great number of the members of this church are dispersed over different parts of Turkey: they amount altogether to about 54 millions. The inhabitants of Sweden, Norway, and Denmark are nearly exclusively Protestants; and the various sects of Protestants form the great majority in England, Scotland, Holland, Switzerland, Prussia, and the northern and western states of Germany. In France, Austria, Ireland, Belgium, and some provinces of Russia, Protestants are numerous. The whole number is about 52 millions. There are Armenians in Russia, Austria, and Turkey, about 200,000 in all.

The Turks and Tartars, with some of the small tribes of Mongol origin along the Ural mountains, are Mohammedans. Their number is supposed not to fall much short of six millions. Among the Laplanders and Samoyedes there are still some who have not embraced Christianity. The Calmucks and the Kirghises are mostly Bhuddists. At Astrakhan there are a few Hindoos. The Jews are most numerous in some parts of Russia, Poland, Austria, and Turkey. Their number cannot be accurately estimated. In the south-eastern countries of Europe there is a considerable number of gipsies.

In the tabular view of the sovereign states of Europe in 1837, (see p. 392), the areas and population are given from the latest and best authorities, and, wherever they could be got, from official documents. It is hardly necessary to observe that these figures must be considered only as approximations with respect to several of the states of Europe, such as Turkey and Greece, for instance.

Zoology of Europe.—In giving a general view of the animals of Europe, it will be found that the number of wild quadrupeds at present existing (many species probably having become extinct) is too small to exhibit many characteristic peculiarities in their geographical distribution and local adaptation, and the close connexion of this continent with that of Asia makes it very difficult to draw any exact line between their productions. Many of the animals of the south of Europe are also common to the north of Africa, and most of the quadrupeds which inhabit the northern parts of our continent are found in the corresponding latitudes of Asia and America. But though the zoology of Europe does not possess much interest from the number, size, or peculiarity of its animals, this is in some measure compensated by the intimate acquaintance which we possess with the habits and manners of many of the smaller species, whose natural history has been carefully investigated by many industrious naturalists.

In the following table the mammalia which are found in Europe are arranged according to their position in the orders of the Cuvierian system, those which are peculiar to this continent, and those which are common both to it and other parts of the globe, are placed in separate columns.—

Orders.	Whole No. of known species	Whole No. of European species	No. of species peculiar to Europe	No. of species common to Europe and other Continents.
I. Quadrumana	186	1		1
II. Cheiroptera.	192	27	18	9
III. Carnivora .. .	320	50	17	33
IV. Marsupialia...	67	.	.	..
V. Rodentia . .	295	35	12	23
VI. Edentata	23	..	.	..
VII. Pachydermata.	40	1	..	1
VIII. Ruminantia ..	137	8	1	7
IX. Cetacea.	76	28	10	18
Total.....	1342	150	58	92

We here see the relative number of European mammals, placed, according to their organisation, in different groups or orders; and we may remark that no animal is found in Europe belonging to the Marsupialia and Edentata, while of the Quadrumana and Pachydermata two species only inhabit our continent, one belonging to each order, the Barbary ape (Inuus sylvanus) and the wild boar (Sus scrofa). The former is found among the precipices of the rock of Gibraltar, and thus enters into the geographical limits of Europe.

The domesticated quadrupeds occupy a much more important station among the animals of our continent than any of the wild species: under this head we shall mention the horse, ass, goat, sheep, ox, hog, dog, and cat, and in the more northern parts of Europe the rein-deer.

No wild races of horses at present exist which have not descended from domesticated varieties; but it seems probable that they were aboriginal in Tartary, and most likely in other parts of Asia. From the former country it is conjectured that they were originally imported into the north and east of Europe; while in the southern and western parts of the continent they were probably derived from Barbary and Arabia; but this of course must be mere conjecture, as we cannot name any time within historical limits when these animals were not spread over all or the greater part of Europe. The horses of Spain were celebrated in the time of the Romans, after which they were probably crossed with the Barbary and Arab breeds during the Moorish dynasty. They may be considered as the lightest and fleetest of the old European breeds, and the nearest approaching to the Arab; but they have fallen off greatly during the last century, little care having been bestowed in keeping up the more noble breed. The best Spanish horses are generally about four feet six or eight inches high, and closely resemble the beautiful Arabians of Barbary called Barbs: those of Andalusia, Granada, and Estremadura are the best. The heaviest horses in Europe come from the shores of the North Sea, and the smallest from the north of Sweden and from Corsica. Those of Germany and Italy are of little note. Switzerland produces good draught horses, and those of Holland are noted for the same qualities. The French is a useful and hardy race, and will endure greater fatigue, though it is not possessed of the size and beauty which now characterize the English horses: the native breeds have been much improved lately by crossing with English stallions. Greater attention is paid to the breeding of horses in England than in any other country except Arabia; but while the Arabs only endeavour to preserve their breed in its original purity, we have improved upon it by crossing with other varieties, till the English horses both exceed the Arabian in size and fleetness, and equal them in many instances in symmetry, though they are not quite their match in powers of endurance. The English horses have been divided into four principal classes—the racer, the hunter, the carriage-horse, and the dray-horse.

The ass in Europe holds a very inferior place to the horse. It is generally an ill-used and neglected animal. Originally of Asiatic extraction, it does not accommodate itself so well to our climate as the horse, for it feels the effects of cold more, and degenerates in northern countries, a circumstance which partly accounts for the contempt in which it is held. In the southern parts of Europe it is a fine spirited animal, and approaches in appearance and usefulness to those of Western Asia and Egypt. The Spanish and Maltese are the finest breeds of asses in Europe. One principal use of this animal is for the breeding of mules, which are extensively used in the mountainous parts of Southern Europe as beasts of burden, where, from their possessing the sureness of foot of the ass, with greater size and strength, they are found exceedingly useful.

Sheep and goats, though placed in distinct genera, are so nearly allied, that the characters which distinguish them are very slight; and there are several races or species of wild sheep and goats very nearly approximated.

It is not easy to trace the present domesticated varieties of either of them to any species still existing in a wild state, for both goats and sheep were among the earliest animals domesticated by man. Cuvier imagined that all the present varieties of the domestic goat have arisen from the Capra ægagros, a wild species inhabiting the mountains of Persia, where it is called Paseng by the natives. He also states that this animal has been found on the Alps; but it has been supposed that this variety, which is met with there in a wild state, might have been a hybrid between the common goat and the Ibex. It seems probable that the goat preceded the sheep in domestication; at any rate it did so in the north and west of Europe for many ages. It is a hardier animal, and will live on the roughest fare, being an inhabitant of mountainous districts, where it is principally bred. The most numerous and finest varieties of domestic goats are in Asia. The Welsh breed is large, with fine long hair, generally white. In Sweden and Spain there are long-haired hornless breeds, with upright ears. The utility of goat's milk is well known: and though the flesh of the adult animal is not much valued, that of the kid is very palatable; the horns and hair are used in different manufactures; and the skin is formed into leather for making gloves, and other purposes.

Sheep seem to have been originally derived from western Asia, whence they were imported into Africa, where they arrived at greater perfection than in their parent country. All the wild varieties of sheep have hair, and not wool: the change in the covering of the body seems to have arisen from the effects of cultivation and climate. The different kinds of domestic sheep are all supposed to have arisen either from the Argali (Ovis ammon) or the different varieties of Musmon (O. musmon), one of which is still found wild in some of the islands of Europe, as Candia, Sardinia, and Corsica. There seems formerly to have been a wild race of sheep in Great Britain, which was very large, with great horns and tail. Mr. Pennant observes ('History of Quadrupeds') that such an animal is figured on a bas-relief taken from the wall of Antoninus, near Glasgow. Boethius says that a breed of sheep lived in St. Kilda which had horns as large as an ox, and reaching to the ground. The principal European breeds of domestic sheep are—1, the many-horned of Iceland; 2, the Cretan; 3, Wallachian; 4, Merino, or Spanish; 5, the English, of which there are many varieties. The most important among the continental races is the Merino, which differs from the English in bearing wool on the forehead and cheeks. The wool is of the finest quality for manufacturing cloth. This breed is extended over the greater part of Spain. But Great Britain possesses the most valuable race of sheep, taking everything into consideration; for it produces the greatest quantity of the best wool and the most delicate flesh.

The ox, which belongs to the largest tribe of ruminating animals, is eminently serviceable to man, though, since the horse has come into such general use, oxen have been less employed in husbandry. It was first domesticated by the Caucasian nations of western Asia, and from thence is supposed to have found its way into Africa and Europe; but it has been imagined that the domestic varieties in our continent might have arisen from races which once existed in Europe, and even in Britain, in a wild state, the only remains of which is the wild bull of Scotland (Bos Scoticus), still preserved in one or two parks in the North. This is most probably the species which was named Urus by Cæsar and other ancient writers; but what makes it improbable that this was the parent of our domestic oxen is the fact that several important anatomical differences, principally as to the shape of the skull, are discovered between the Scotch bull and the domestic ox. Numerous specimens of fossil skulls, found in the more recent formations, which are supposed to have belonged to the ancient Urus, present also the same differences. The largest European breeds of cattle are those of Podolia and the Ukraine, of Turkey, Hungary, and the Roman states. The Roman variety is supposed to have been introduced by the Goths, as all the representations of oxen found among old sculptures seem to denote a smaller race, more resembling that which is now seen in Tuscany, of a fine form, and pure white colour. There is a large breed of oxen in Denmark, which is the origin of the Dutch and Holstein varieties; the latter is the parent of the English unimproved breeds.

The hog occupies a low place in the scale of domestic animals, though its flesh forms an exceedingly good article of diet, and one much used by the peasantry in Christian countries. One of its most valuable qualities is that of preserving exceedingly well with salt, without becoming dry and hard, and losing its nutritive properties. The common wild boar (Sus scrofa) of Europe is no doubt the original parent of our domestic varieties. It was once indigenous over the whole of the old world, though now exterminated from some countries, as for instance Great Britain. The English breed of pigs is the finest in Europe, and some of them are fattened to an enormous size. In Ireland every cottager keeps his pig as a regular part of his establishment; and the salting of pork for exportation is a considerable article of trade in that country. There is a peculiar long-legged race of swine in Portugal and Spain. The pigs of Poland and Russia are of a reddish colour, and very small.

The dog claims our attention, not for his use as a beast of burthen, or in providing food for our tables, but for the attachment which he shows to man, becoming his companion and friend, assisting him in his pleasures, and protecting his property and home.

M. F. Cuvier has divided the different varieties of dogs into three primary types; the first has the jaws and muzzle elongated, and we may remark that all the wild species, as the Dingo of New Holland, &c., belong to this group, and more resemble the wolf and fox: this therefore may be considered as the most natural type. The second group has the jaws shorter than the first, though longer than in the last division. The principal varieties of dog found in Europe belonging to the first group are, 1. the *Albanian*, mentioned by the ancient historians and poets; 2. the *French matin*, which is considered by the writers of that nation as the most important of the canine race, and the ancestor of many others; 3. the *Irish Greyhound*; 4. the *great Danish Dog*; 5. the *common Greyhound*. The second group of dogs includes the most intelligent and useful kinds, as the spaniel, hound, shepherd's and watch dogs: and we may here mention as belonging to this section the Alpine spaniel, or Mount St. Bernard dog, a variety of the Spanish breed, which is a beautiful and intelligent animal kept by the monks at the monastery from whence it derives its name, for the preservation of unfortunate travellers who are often lost in the snows of this inhospitable region. Two of them are said to be sent out together, one carrying a cloak and the other a basket of provisions and cordials: thus provided they often discover and are the means of saving persons who would otherwise perish with cold and fatigue. In the last group, which have the muzzle very short, are placed the *mastiff, bull-dog, pug*, &c. Our English breeds of mastiffs were once so celebrated that the Roman emperors appointed an officer in the island, whose business it was to send these dogs to Rome to fight in the arena; and in later times, when in our own country savage conflicts between dogs and wild beasts were a fashionable amusement, great care was bestowed on the breeding of bull-dogs and mastiffs.

There has been considerable diversity of opinion respecting the origin of the domestic cat, and the part of the world from whence it originally came. It has been thought by some that it must have been an inhabitant of warm climates, as it is a chilly animal, and always creeps as near to the fire as possible. Cuvier believed that it was a native of our European forests, and was the same species as the wild cat at present found, having been only altered by the effects of domestication. In support of this opinion, it is asserted that cats in some places, near woods or forests, will stray away and return to a savage state, when they assume very much the characters and appearance of the wild cat. According to Bewick ('History of Quadrupeds'), wild cats are found with little variety in most climates. The domestic cat is very useful in destroying vermin, as rats and mice, and is a favourite pet, though it is not capable of much attachment.

The reindeer, which is naturally wild in the north of Europe, becomes, when tamed by the Laplander, of the greatest value to him. It serves him for food, clothing, and as a beast of burthen; by its organization it is formed for crossing the snowy wastes, which without this animal would be impassable: it will draw a great weight when attached to a sledge, and go with amazing swiftness. The riches of a Laplander are estimated by the number of reindeer which he possesses: during the winter season, when the ground is covered with snow, and the ox and horse would starve, the reindeer finds plenty of food in a peculiar lichen (*Cladonia rangiferina*), which grows in the greatest abundance, and often covers the soil in sterile places for miles, affording nourishment for vast herds of reindeer, which root for this vegetable under the snow like swine in a pasture. Attempts have been made to domesticate this animal in England, but hitherto they have not succeeded. The reindeer is not adapted to our climate, and does not seem likely to be of much use in any point of view, even if the experiment should succeed.

The whole number of wild European mammalia at present met with is only 150, which includes 28 belonging to the whale tribe, and 8 species of phocidæ or seals, among which the morse or walrus (*Trichecus rosmarus*) is placed: these being deducted, the number of land animals is reduced to 114, a proportion very small when compared with the three other great continents: of these seventy are also found out of Europe, most of them being common to Asia; there only remain therefore forty-four quadrupeds which are now peculiar to Europe.

We have already mentioned the only quadrumanous animal found within our limits, the Barbary ape, or magot, which though now naturalized, is probably not an aboriginal inhabitant of Gibraltar.

Of the *Cheiroptera* twenty-seven species are found in Europe, most of which belong to the genus Vespertilio, a small and harmless race of bats. The most common and best known species is the *V. murinus*, the flitter mouse of the English, which lives in caves, ruined buildings, church towers, the roof of houses or churches, and hollow trees, where it hybernates during the whole winter, snugly wrapped up in the wing membranes, and suspended by the hind feet. There are two or three or perhaps more European species of the genus Rhinolophus, commonly called horse-shoe bats, and one species of Plecotus has been described as found in Europe. As many as sixteen bats have been enumerated by Jenyns as inhabitants of Britain.

Most of the *Carnivora* of Europe are very insignificant animals by the side of their congeners of Asia and Africa. The only formidable beasts of prey now found within the limits of our continent are the bear, the wolf and the lynx; but the lion was once met with in the south of Europe. Herodotus says that it was found in Greece between the rivers Nestus and Achelous (vii. 125), and he mentions the circumstance of the army of Xerxes being annoyed by lions on its march from Acanthus to Therme. The fact of these animals having inhabited our continent is also confirmed by Aristotle, Pliny (unless he is merely copying other writers), and Pausanias. Of the genus Bear there are two species in Europe, the common brown bear (*Ursus arctos*), and the polar bear (*U. maritimus*): the former was once general over the whole continent, and is now found widely diffused in the most solitary districts from the arctic circle to the summits of the Alps and Pyrenees. It is a lonely animal, hybernating during the winter in the hollow of a tree or a cavern, where it remains till the spring without taking any sustenance. It is supposed to be nourished during that time by the fat which accumulates beneath the skin in great quantities in the summer. Cuvier describes a black bear peculiar to our continent, differing from that of America; however, as he never saw but one living specimen, and did not know its habitat, it was probably only a variety of the former species. The polar bear is almost confined to the frozen regions surrounding the north pole, but a solitary individual is occasionally drifted as far south as Iceland, or even the northern extremity of Norway and Lapland. The wolf and fox, the latter under different varieties or species, appear generally distributed over Europe: the former is even now not uncommon among the wooded and mountainous dis tricts of France: when pressed by hunger, it will descend to the farms, and even attack the inhabitants. The lynx, once common in central Europe, has for some time been extirpated, except from some parts of Spain, the Apennines, and the northern parts of the continent: it is about twice the size of the wild cat, which is still said to be a native of Britain. The common glutton or wolverine (*Gulo arcticus*) is a native of Denmark. It is one of those animals whose history is obscured by fable: it feeds principally on dead carcases, though it will kill prey of the smaller kinds, as mice, marmots, &c.; but the stories of its falling from the boughs of trees upon the backs of deer and other large animals, and maintaining its hold there till they drop with fatigue and loss of blood, are entirely fabulous, as it is a most cowardly animal, and may be easily killed with a stick.

Of small carnivorous quadrupeds there are several species; as many as eight Mustelidæ, or weasels, inhabit different parts of Europe, which are particularly destructive to birds.

Few of the *Rodentia* of Europe require particular notice. The beaver was formerly recorded as a British animal; at present it is found in the neighbourhood of the Rhone, the Danube, the Rhine, and other large rivers on the continent. The porcupine (*Hystrix cristata*) is said to be occasionally met with in Italy, and other parts of the south of Europe. The flying squirrel (*Pteromys volans*) is an inhabitant of Denmark and Lapland, as well as one or two species of lemming (*Georychus*). The different kinds of rats and mice, of which seventeen species have been described, arranged in different genera, form an important feature in European zoology. One species of Hamster (*Cricetus vulgaris*) is distributed over central and northern Europe; and two marmots (*Arctomys marmotta* and *Bobac*); and the Spermophilus Citillus, or Soulisk of the Germans, occurs in the same region.

The *wild boar*, the only aboriginal pachydermatous animal in Europe, was formerly an inhabitant of the forests of Great Britain, and was one of the noblest and most favourite objects of the chase; it is still found on the continent.

The number of *Ruminants* found wild in Europe is very limited, there being only eight species. Of these five are deer, all of which are also inhabitants of other continents, viz., the elk or moose-deer, the rein-deer, the fallow-deer, the red-deer, and the roebuck. The three remaining animals of this order are the ibex, the chamois, and the musmon. The first (*Capra ibex*) is found, though rarely, in the Alps, still more rarely in the Pyrenees, and, it is said, in some other mountainous parts of Europe and Asia: it lives only in the most lofty and inaccessible places, and is sought for at the extreme peril of the hunter. The chamois inhabits also the wildest and most precipitous regions in the mountains of Europe, though it scarcely ascends to the same heights as the ibex; it is placed in the same group with the antelopes, though by some naturalists it is considered that it should form an intermediate genus between those animals and the goats. The musmon (*Ovis musmon*), the only ruminating quadruped which appears confined in its range to Europe, we have already mentioned as being the supposed parent of our domestic sheep; it has disappeared from the continent.

The *Cetacea* are a tribe of animals of which little is known. Their habitation being in the deepest recesses of the ocean, it is impossible to learn much of their habits and characters; and hardly any species can be said to be peculiar to one continent more than another, for the same whale may be met with on the coast of Europe at one time, and on that of America at another. A great many species frequent the shores of Europe, principally on its northern part, and the Greenland fishery is an important branch of European commerce.

The *birds* of Europe are much more numerous than the mammalia. Above 400 species have been described as regular inhabitants of our continent, and a good many more are occasional visitants; but we must confine our notice to a few of the more remarkable and typical species. In the northern or arctic regions very few birds are met with, and most of them belong to the wading and swimming orders; to whose nourishment and increase the arctic solitudes are particularly congenial. Almost all these species are found also in the northern parts of Asia and America; and the largest proportion occur in southern latitudes, extending even to the shores of the Mediterranean. One of the most characteristic birds of arctic Europe is the great snowy owl (Strix nyctea), which preys chiefly on the ptarmigans and grouse, which frequent these northern regions in great numbers. Two other formidable rapacious birds frequent the northern countries, particularly Lapland: the Iceland falcon (Falco Islandicus), which rarely wanders to more genial climes, and another gigantic owl (Strix lapponica), which is a peculiar inhabitant of the dreary solitudes of Lapland. As we proceed to warmer latitudes, and vegetation acquires a more decisive character, the number and species of birds subsisting on the produce of the earth and on insects greatly increase. Several woodpeckers are met with in the pine forests of Norway, one of which (the Apternus tridactylus) is remarkable for having only three toes on its feet. Among the noblest and most formidable birds of central and southern Europe may be mentioned the golden and imperial eagles; the former (Aquila chrysaetos) is an inhabitant of the wildest parts of Scotland and Ireland, and of rocky places among the higher mountains on the continent. The latter (A. imperialis) is chiefly found in the southern countries. Four species of vulture are met with on the Alps, two of which are found in the north of Africa and the western part of Asia. The bearded vulture (Gypaetus barbatus), which is almost peculiar to the Alps, is a noble bird, partaking more of the characters of the true falcons, being very courageous and sanguinary; it is above four feet and a half long, from the tip of the bill to the extremity of the tail, and will attack sheep and goats, and it is said that even the ibex and chamois are sometimes killed by it. The great-eared owl represents in central Europe the snowy species of the arctic regions; it is common in the German and Hungarian forests, and is sometimes, though rarely, met with in England. The gallinaceous genera are few and widely dispersed. The great bustard (Otis tarda) ranges from the western extremity of central Europe to the confines of Asia. The red grouse (Lagopus Scoticus) is the only bird peculiar to Great Britain. This race of birds seems to occupy an intermediate station between the centre of Europe and the confines of its polar extremity: the largest species is the famous cock of the woods (Tetrao urogallus), once an inhabitant of the Scottish forests. The rocky and uncultivated tracts of Spain and Turkey are inhabited by two species of rock grouse (Pterocles), of a genus different from those belonging to northern latitudes. On the shores of the Mediterranean there is a union of the ornithology of Europe, Africa, and Asia: the pelican, the spoonbill, and the flamingo are there met with, though not now very plentifully. Few of the birds of Europe are remarkable for that brilliancy of plumage which is so splendid a characteristic of the birds of tropical climates, but this is, in many instances, more than compensated by their sweetness of voice. The nightingale, the best songster in the world, is common in England and other European countries, though not confined to our continent; it visits us in the breeding season, along with numbers of other warblers, or small insectivorous birds, which enliven our woods and hedges during the spring and summer. The melody of the blackbird and thrush is too well known to require any eulogy. But Europe is by no means destitute of birds characterized by the beauty of their colours, though they are chiefly confined to its southern boundaries: the wall-creeper with its bright rosy wings is common in Italy; while the golden oriole, the European bee-eater, the hoopoe, and the roller are met with in abundance in the two Sicilies during the spring and autumnal migrations; and a modern author says that "they may occasionally be seen hanging in the poulterers' shops in Naples and Palermo."

The *reptiles* of Europe are few, and generally harmless. The common viper is almost the only venomous serpent. Numerous little lizards are common in the houses in the southern parts of the continent, as in Italy; but most of them are not peculiar to Europe, being also found on the opposite shores of the Mediterranean. An excellent edible species of turtle inhabits this sea, which resembles in appearance the loggerhead of the West Indies, but is much more palatable when dressed.

Insects and other annulose animals are very numerous in Europe, but few of them possess sufficient interest to require any notice in this general sketch. The scorpion is frequently found in houses in Sicily, though fortunately unknown with us. The common gnat is one of our most troublesome insects, and in warm shady places, where there is much stagnant fresh water, it will cause almost as much annoyance to some people as the mosquito of hot climates, which it closely resembles. In Sweden and other northern countries, where the summer though very short is exceedingly hot, it is said that true mosquitos are more numerous than in the woods of tropical America.

Many of the *fish* which frequent the shores of Europe are very important in an economic point of view. We may particularly mention the herring, the anchovy, and the tunny, whose capture and preparation employ a great number of men, and which are also important articles of diet. Herrings (*Clupea harengus*) arrive in great shoals on the western coasts of Europe towards the end of the summer for the purpose of depositing their spawn, and at that time immense numbers are caught, particularly on the British coasts where they abound. It was supposed by the older naturalists (and among others even by Cuvier) that the herrings migrated from the Northern Ocean in the spring, and returned there after depositing their spawn; but it is the more recent opinion (which is supported by the authority of Mr. Yarrell) that these fish inhabit the deep waters round our coasts, and only approach the shore for the purpose of spawning, and then retire again to the depths of the ocean, where they remain during the winter and spring. The pilchard (*Clupea pilchardus*), which belongs to the same genus as the herring, is caught only on the coast of Cornwall, where it makes its appearance in July; it goes away in the autumn, and returns in the beginning of January. The anchovy (*Engraulis encrasicholus*) is principally met with in the Mediterranean, which sea it enters in enormous shoals by the Straits of Gibraltar in the spring, for the purpose of breeding, after which it retires again to the depths of the Atlantic. The most productive fishery is off Gorgona, a small island west of Leghorn, where it is carried on during the months of May, June, and July. The anchovies are fished for only during the night, and are attracted round the boats by fires kept burning in them. Their principal use is for forming a sauce.

The tunny (*Scomber thynnus*) is also an inhabitant of the Mediterranean. It was a fish well known to the ancients, and made a considerable branch of commerce; the time of its arrival in the Mediterranean from the ocean was observed, and stations for taking it established in places which it most frequented (Strabo, p. 22). It is in the interior of the Mediterranean that this fishery is now principally carried on, particularly along the shores of Catalonia, the south of France, Sicily, and Sardinia.

The salmon (*Salmo salar*) is found in all the seas on the north of Europe, Asia, and America, but it has never been met with in the Mediterranean. According to Cuvier it comes from the Arctic seas, whence it enters in large shoals the rivers of northern countries in the spring for the purpose of spawning. In temperate climates it is towards the end of winter that the salmon quits the sea; in the more northern regions it enters the rivers when the ice begins to melt on the shores of the ocean. Though the salmon is principally confined to the more northern regions, it has not been clearly ascertained how far south it extends, but probably not much beyond the 45th degree of latitude. It occurs, though not plentifully, in the rivers on the western coast of France.

The pike (*Esox lucius*), which is a palatable and wholesome fish, is exceedingly voracious. It is found in almost all the fresh waters in Europe, though more plentifully in the northern than the southern parts. It sometimes grows to a very large size.

Botany.—This continent in its most southern limits exhibits a strong resemblance to the vegetation of Africa and its adjacent islands. In Sicily, for example, along with the vine, grow, in the more sterile situations, the poisonous leafless *Euphorbia Canariensis*, an inhabitant of the Canaries, and its congener *E. balsamifera*. *Euphorbia dendroides*, a fine globular shrub, is also met with in company with the castor-oil plant (*Ricinus Africanus*), and the Solanum sodomaeum of Egypt. The Date, the Pisang (*Musa Paradisiaca*), and the Prickly Pear (*Cactus Opuntia*), ripen their fruit abundantly; *Agave Americana*, the American aloe, darts up its gigantic flower-stem from the midst of huge horny leaves; rice is grown; the sugar-cane is cultivated at Avola; the cotton-plant (*Gossypium herbaceum*) yields produce of the finest quality on the banks of the Simeto, while the great Italian reed (*Arundo Donax*) supplies the place of the bamboo, and furnishes the long stakes on which the vine is trained. Many parts of the south of Spain partake of this character. The *Smilax aspera* loads the bushes with its fragrant snow-white clusters, maize and Guinea corn are common articles of cultivation, the Peruvian Cherimoyer ripens its fruit in the gardens of Granada, and the delicate melons of Valencia are as common an open crop as in the fields of Persia. At Barcelona, in the neglected botanic garden, were still found, a few years since, the Sappan tree of Brazil (*Caesalpinia Sappan*), the *Schinus Molle* of Peru, and other trees from similar climates flourishing as if in their native air. In Portugal the laurel (*Cerasus Lusitanica*) seems almost identical with the Hixa of the Canaries, while the Coral-trees at Lisbon unfold their noble leaves and gorgeous blossoms with all their native South American vigour. In Italy arborescent Endogens extend as far as Nice in the form of the dwarf Palmetto; and the Victor's laurel (*Laurus nobilis*), a common evergreen, is a European representation of the laurels of the Canaries. Along all these latitudes the fig, the olive, the orange, the vine, and the maize find a climate congenial to their southern constitutions. Even in valleys the olive will not exist higher than 14½° N. lat., nor the vine produce good wine beyond 18°, except in a few sheltered places.

About the northern limits of the olive, that is to say, in the parallel of the south of France, a marked change occurs in vegetation, most of the southern equinoctial forms of vegetation either disappear or become uncommon. The Quercus Cerris, so common in Italy and Turkey, is hardly found; evergreen oaks (*Quercus Ilex*), common oaks (*Q. pedunculata* and *sessiliflora*) supply its place. Cluster pines and Scotch firs (*Pinus pinaster* and *sylvestris*), and other species, especially Pinus halepensis, grow along the sea coast and occupy the position held by the more southern stone pine (*Pinus pinea*), while *Juniperus Phoenicea* and *oxycedrus*, on the branches of which its peculiar mistletoe is sometimes met with, sweet chestnuts (*Castanea vesca*), the narrow leaved ash (*Fraxinus oxyphylla*), the flowering ash (*Ornus Europaea*), mastich-trees, and Phillyreas increase the catalogue of trees, no vestige of which is to be traced much higher in a wild state. Still more to the north, where the vine begins to languish, its place is better occupied by broad plains of wheat and other corn, the hardy trees of England, elms, limes, oaks, ashes, alders, beeches, birches, willows, and poplars are found everywhere, with rich pastures and verdant fields, unknown in the land of oranges and myrtles. At last in the more northern districts of the continent, aspens (*Populus tremula*), bird-cherries (*Prunus Padus*), birches, lime trees, alders, junipers, spruce firs, and pines are the principal trees that remain, barley and oats are the only corn-plants, but potatoes are reared in the short summer.

Among plants less conspicuous than these and less popularly known, changes occur between the north and south of Europe not less striking to the eye of a botanist. In Sicily occurs a *Stapelia*, a form of vegetation so African, that Arabia Felix and Abyssinia are the nearest points where a parallel can be found. Mandrakes (*Mandragora autumnalis*) cover whole tracts in Turkey and Sicily in the autumn with their sky-blue flowers. Quantities of labiate plants, Boragineous and gay [illegible], Medicagos in abundant variety, an endless host of Cistus and Helianthemum, Narcissi, Tulips, many species of Ophrys, and numerous kinds of Genista and Cytisus, mark a zone of vegetation corresponding very much with the distribution of the olive. To the north of this limit such plants either disappear or diminish essentially in number and variety; Apiaceous and Brassicaceous species become predominant, fungi swarm in the autumn, turnips and buckwheat (*Polygonum fagopyrum*) are cultivated advantageously, as also are hemp, flax, hops, carrots, parsnips, common clover, beans, vetches, and lucerne, as common field-crops. But in higher latitudes the predominant forms of herbaceous vegetation are numerous species of Ranunculus, Potentilla, Saxifraga, Arenaria, Primula, Mosses, and Lichens, and there also occur abundance of stunted or pigmy trailing shrubs, such as bilberries and whortleberries (*Vaccinium Myrtillus* and *uliginosum*), *Salix herbacea*, *Arbutus Alpina*, *Arctostaphylos Uva Ursi*, crowberries (*Empetrum nigrum*), and the like.

These changes take place if we merely look to the districts of the plains. In Europe, as in other parts of the world, similar alterations in vegetation occur as we ascend into the atmosphere. In Sicily, for instance, with an almost tropical vegetation in the valleys, there is a transition to the middle forms of European vegetation midway on the mountain side of Ætna, and then to the most northern flora at its summit, 9000 feet above the sea, and so with other mountains as we advance to the south, till at last on Sulitelma, in Lapland, not a trace of vegetation can be discovered above the height of 3510 feet.

TABULAR VIEW OF THE SOVEREIGN STATES OF EUROPE.

Those thus marked * are states which are members of the Confederation of Germany.

States	Form of Government	Area, Sq. Miles	Population
Andorra (Pyrenees)	Republic, with two syndics and a council	[illegible]	[illegible]
Anhalt-Bernburg	Duchies, with states having limited powers	[illegible]	[illegible]
——— **Cöthen**		[illegible]	[illegible]
——— **Dessau**		[illegible]	[illegible]
***Austria**, Empire of: 1 in Germany, Hungary, &c.	Absolute monarchy, with the exception of Hungary and Transylvania, which have legislatures	[illegible]	[illegible]
2 in Italy		[illegible]	[illegible]
***Baden**	Grand duchy, limited sovereignty, with legislature of two chambers	[illegible]	[illegible]
***Bavaria**	Limited monarchy, two chambers	[illegible]	[illegible]
Belgium	Ditto ditto	[illegible]	[illegible]
***Bremen**	Republic, senate and convention		[illegible]
Britain, Great, Ireland, and settlements and islands in Europe	King and two houses of parliament	[illegible]	[illegible]
***Brunswick**	Duchy, limited sovereignty, with one chamber	[illegible]	[illegible]
Church, States of the, or Papal States	Absolute, elective sovereignty	[illegible]	[illegible]
Cracow	Republic, senate and chamber of representatives	[illegible]	[illegible]
Denmark, Continental	Absolute monarchy, with provincial states having limited powers	[illegible]	[illegible]
——— Islands		[illegible]	[illegible]
France	Limited monarchy, two chambers	[illegible]	[illegible]
Frankfort (on the Mayn)	Republic, senate and legislative body	[illegible]	[illegible]
Greece	Absolute monarchy	[illegible]	[illegible]
***Hamburg**	Republic, senate and [illegible]	[illegible]	[illegible]
***Hanover**	Limited monarchy, [illegible]	[illegible]	[illegible]
***Hesse Cassel**, or Electorate of Hesse	Limited sovereignty, [illegible]	[illegible]	[illegible]
***Hesse Darmstadt**, or Grand Duchy of Hesse	Ditto, two chambers	[illegible]	[illegible]
***Hesse Homburg**	Landgraviate, [illegible]	[illegible]	[illegible]
***Hohenzollern Hechingen**	Principality, limited sovereignty, with one chamber	[illegible]	[illegible]
*——— **Sigmaringen**	Ditto ditto	[illegible]	[illegible]
Holland (including Duchy of Luxemburg)	Limited monarchy, with two chambers	[illegible]	[illegible]
Ionian Islands	[illegible] and one chamber, [illegible] protection	[illegible]	[illegible]
***Lichtenstein**	Principality, limited, with one chamber	[illegible]	[illegible]
***Lippe Detmold**	Ditto ditto	[illegible]	[illegible]
***Lübeck**	Republic, senate and [illegible]	[illegible]	[illegible]
Lucca	Duchy, limited sovereignty, with a [illegible]	[illegible]	[illegible]
Marino, San	Republic, with senate and [illegible]	[illegible]	[illegible]
***Mecklenburg-Schwerin**	Grand duchy, limited sovereignty, with [illegible]	[illegible]	[illegible]
*——— **Strelitz**	Ditto ditto	[illegible]	[illegible]
Modena and Massa	Duchy, absolute sovereignty	[illegible]	[illegible]
Monaco	Principality, absolute sovereignty	[illegible]	[illegible]
***Nassau**	Duchy, limited sovereignty, with two chambers	[illegible]	[illegible]
***Oldenburg**	Grand duchy, absolute sovereignty	[illegible]	[illegible]
Parma	Duchy, absolute	[illegible]	[illegible]
Portugal	Limited monarchy, with chamber of representatives	[illegible]	[illegible]
***Prussia**	Absolute monarchy, with provincial states having limited powers	[illegible]	[illegible]
***Reuss**, Principalities of	Limited sovereignty, with one chamber	[illegible]	[illegible]
Russia, Empire of—Russian Dominions	Absolute monarchy	[illegible]	[illegible]
Kingdom of Poland	Ditto	[illegible]	[illegible]
Sardinia	Ditto	[illegible]	[illegible]
***Saxony**	Limited monarchy, with two chambers	[illegible]	[illegible]
***Saxe-Altenburg**	Ditto with one chamber	[illegible]	[illegible]
***Saxe-Coburg and Gotha**	Ditto ditto	[illegible]	[illegible]
***Saxe-Meiningen Hildburghausen**	Ditto ditto	[illegible]	[illegible]
***Saxe-Weimar Eisenach**	Ditto ditto	[illegible]	[illegible]
***Schwarzburg**, Principalities of	Ditto ditto	[illegible]	[illegible]
***Schaumburg-Lippe**	Ditto ditto	[illegible]	[illegible]
Sicilies, The Two	Ditto with a council [illegible]	[illegible]	[illegible]
Spain (c)	Ditto with legislature	[illegible]	[illegible]
Sweden and Norway	Ditto with diet and storthing	[illegible]	[illegible]
Switzerland	Confederation of republics, with diet	[illegible]	[illegible]
Turkey, Empire of (including Wallachia, Moldavia, and Servia)	Absolute monarchy	[illegible]	[illegible]
Tuscany	Grand duchy, absolute sovereignty	[illegible]	[illegible]
***Waldeck**	Principality, limited sovereignty, with one chamber	[illegible]	[illegible]
***Wurtemberg**	Limited monarchy, with two chambers	[illegible]	[illegible]
		[illegible]	[illegible]

(a) The area is assumed from the president's decree of the 25th of April, 1828. Balbi and others carry it above 15,000. The population according to Klein's Almanach for 1837, is [illegible],000, besides 12,326 troops.

(b) Including the governments of Perm, Viatka, Kasan, Simbirsk, Penza, Saratof, Astrakhan, and part of Orenburg, [illegible],390 square miles.

(c) According to the Appendix to a decree in the 'Madrid Gazette' of August, 1836.